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Report to Congress

1994-95

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Now more than ever, the protection, preservation, and interpretation of America's archeological resources are important activities of federal agencies. Archeological remains, whether related to the ancient inhabitants of our country or from more recent historical times, should be reserved for public uses rather than private gain. We should strive to provide all Americans the opportunity to appreciate past craftsmanship, understand past ways of life, and better comprehend people's adaptations to changing natural, physical, and social environments during prehistoric and historic times. Information derived from archeological resources should be provided through scientifically based, accessible public interpretation. Archeological collections and associated records should be cared for and used to further public education.

This report was prepared to fulfill reporting responsibilities under section 5(c) of the Archeology and Historic Preservation Act and sections 10 and 13 of the Archaeological Resources Protection Act. This report provides a basis for understanding the resources and protection and education programs directed by federal stewards.

Bruce Babbitt
U.S. Secretary of the Interior

Federal Archeology Program

Secretary of the Interior's Report to Congress 1994-95

By Daniel Haas

U.S. DEPARTMENT OF THE INTERIOR   NATIONAL PARK SERVICE
DEPARTMENTAL CONSULTING ARCHEOLOGIST   ARCHEOLOGY AND ETHNOGRAPHY PROGRAM
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LEFT: Cliff Palace at Mesa Verde National Park. People began settling at Mesa Verde around the 5th century AD and lived there for about 800 years, leaving some of the most beautiful villages in the Southwest.

Introduction

The history of North America is written as much in the earth as it is on paper. From the Ice Age to the Cold War, the earth holds a literal wealth of heritage. The first people to inhabit the American continent, the great cultures that thrived for centuries along the Mississippi, the wagon trains west, all left unequaled physical testimony to the reality of other eras.

But as forest and farmland have given way to highway and city, much of this archeological richness has disappeared. On federal and tribal land, however, many sites remain, and through the passage of laws (see Appendix D), the American people have charged their government with preserving them. About a third of the nation—740 million acres, with an estimated 6 to 7 million archeological sites—belongs to the people of the United States.

Much of the archeology done by government agencies is required by the National Historic Preservation Act. One important goal is to preserve sites that are or may be eligible for the National Register of Historic Places. Agencies must consider the effect of projects they conduct, fund, or authorize on these sites. These projects are on federal, tribal, state, or private land, entailing highway construction, mining, laying pipelines, erecting hospitals, and a range of other activities.

Public agencies are encouraged to carry out their actions in ways that preserve important sites and the information they contain. Many sites are preserved once they are discovered; others are excavated out of harm's way, with their artifacts and research preserved for posterity.

LEFT: Reed curtain over dwelling doorway testifies to the presence of Native Americans at New Mexico's Aztec Ruins National Monument.

ABOVE: Cliff dweller pottery from Mesa Verde National Park.
BELOW: Ruins of jailhouse where Geronimo and Billy the Kid were held prisoner, Fort Union National Monument, New Mexico.
FAR RIGHT: Peeled-back blacktop reveals the wall of a 19th-century workers' boardinghouse, Boott Cotton Mills, Lowell, Massachusetts.

Today, federal archeology is an integral part of the national archeology and historic preservation program. As will be seen in this report, there have been successes and shortcomings. Interagency cooperation and support from the professional archeological community, private groups, and the public are all crucial if the successes are to continue—and the shortcomings overcome.

This report, called for by the Archeological and Historic Preservation Act and the Archaeological Resources Protection Act, assesses the impact of federal projects on the nation's archeological heritage, describing activities and accomplishments in fiscal years 1994 and 1995. The latter legislation, passed in 1979 to counter the rampant looting of sites, calls for federal land managers to issue permits for archeological work, create public awareness programs, undertake comprehensive surveys of their lands, care for collections and records, and document archeological crimes.

The extent of an agency's involvement in the federal archeology program depends on its mission. For this report agencies are divided into those that manage land (such as the Bureau of Land Management), those that regulate activities (such as the Federal Energy Regulatory Commission), and those that oversee development (such as the Federal Highway Administration). Land management agencies, responsible for vast tracts containing hundreds of thousands of sites, have their own archeology programs. However, agencies in charge of managing smaller tracts, which may not have archeologists on staff, have an equal responsibility to preserve sites under their jurisdiction.

Development agencies provide financial or technical assistance on lands that they may or may not manage. For example, the Natural Resources Conservation Service works with private land owners to foster wise agricultural practices. The Federal Highway Administration, which allocates construction and maintenance funds to state highway departments, is responsible for protecting sites affected by such work. Regulatory agencies such as the Office of Surface Mining and the Minerals Management Service issue federal licenses and permits for a wide variety of activities, such as petroleum exploration and drilling.

ABOVE: JACK BOUCHER/NPS HARPERS FERRY CENTER. TOP LEFT: NPS HARPERS FERRY CENTER

This report includes both numerical and narrative data provided by 40 agencies. With any effort of this magnitude, incomplete data affect interpretations and will continue to do so in the future. The numerical information presented herein is a general measure of the federal archeology program rather than a precise calculation.

The current government-wide effort to preserve the nation's archeological heritage has taken shape through laws and regulations that extend back to the late 19th century and the Antiquities Act of 1906. Today, federal archeology is an integral part of the national archeology and historic preservation program. As will be seen in this report, there have been successes and shortcomings. Interagency cooperation and support from the professional archeological community, private groups, and the public are all crucial if the successes are to continue—and the shortcomings overcome. The future will depend on the continued dedication and altruism of those who work to preserve our archeological legacy.

Recommendations

Inventorying Sites

Spread across over 740 million acres of federal and tribal land are an estimated 6 to 7 million unidentified archeological sites. Despite the fact that FY 1994-95 saw the number of acres surveyed to identify sites increase by 76 percent, yielding a 66 percent jump in known sites, this only scratches the surface of an immense national resource. The long-term management and protection of these sites is a formidable challenge for federal agencies, particularly those who manage land, as most of the nation's publicly held sites are in their care. If agencies do not know what they have, where it is, and what is needed to preserve it, these sites cannot be understood, interpreted for the public, or protected.

- ***Land-holding agencies need to systematically build their inventories of archeological sites.*** Getting a good count of the nation's public sites is a very long term effort requiring steady progress.
- ***More reliable methods for identifying sites must be developed.*** The number of unanticipated archeological discoveries (during highway construction and the like) is not declining. Often, by the time the discovery is made, the damage is done.
- ***Agencies should increase the number of sites evaluated for the National Register of Historic Places.*** Once a property has been listed, it can be better protected and interpreted for future generations. Only 27 percent of known sites in this country have been evaluated for the National Register. This reporting period saw an increase in evaluations, but new sites are being discovered at a much faster rate.

LEFT: Fireplaces and the few remaining chimneys of New Mexico's Fort Union, the largest such outpost in the 19th century Southwest and a haven for settlers on the Santa Fe Trail.

Preventing Vandalism and Looting

Between three and five million dollars were spent specifically on archeological law enforcement in each of the reporting years. The number of arrests and prosecutions declined, while violations remained steady. The ratio of convictions to prosecutions is improving, however. Eighty-five percent of prosecutions resulted in convictions. This reporting period saw agencies cooperating as never before and being much more aggressive in enforcing preservation laws, a trend that must continue in the future.

ABOVE: Arizona's Perry Mesa archeological district, listed on the National Register of Historic Places. The Bureau of Land Management and the Forest Service received a special recognition award for a National Register nomination to expand the district.

- ***Agencies should continue to improve regional strategies to combat looting.*** Archeological crime transcends local jurisdictions, and often crosses international borders. Regional, multi-agency task forces have proven effective in uncovering and prosecuting cases involving systematic looting in several states.

- ***The Archaeological Resources Protection Act of 1979 should be used more often for prosecuting civil cases.*** When criminal prosecution is not the chosen course, civil action is very often a good, cost-effective alternative, and one that has been under-used in the past.

- ***Agencies should develop standardized reporting for archeological crimes.*** Many land management agencies are unable to retrieve data on these offenses.

Fostering Partnerships and Communication

There is much to applaud in this area, with FY 1994-95 bringing a host of innovative—and sorely needed—partnerships, cost share projects, cooperative research, and agreements. These efforts are exemplified by local and regional approaches to fight looting and by agency field offices assisting tribes with surveying their lands and evaluating their sites.

- ***Agencies must develop national agreements to resolve differences in their procedures.*** These agreements will streamline the transfer of funds and material—as well as the sharing of expertise—for interagency projects.
- ***Compatible database standards are needed.*** The databases used by the National Park Service and the Bureau of Land Management, which share such standards, are a good example. Such compatibility would allow agencies to not only share information among themselves, but provide access for partners such as state historic preservation officers. Disparate data management systems impede communication at a time when the technology provides staggering possibilities for improving management, research, and public education.

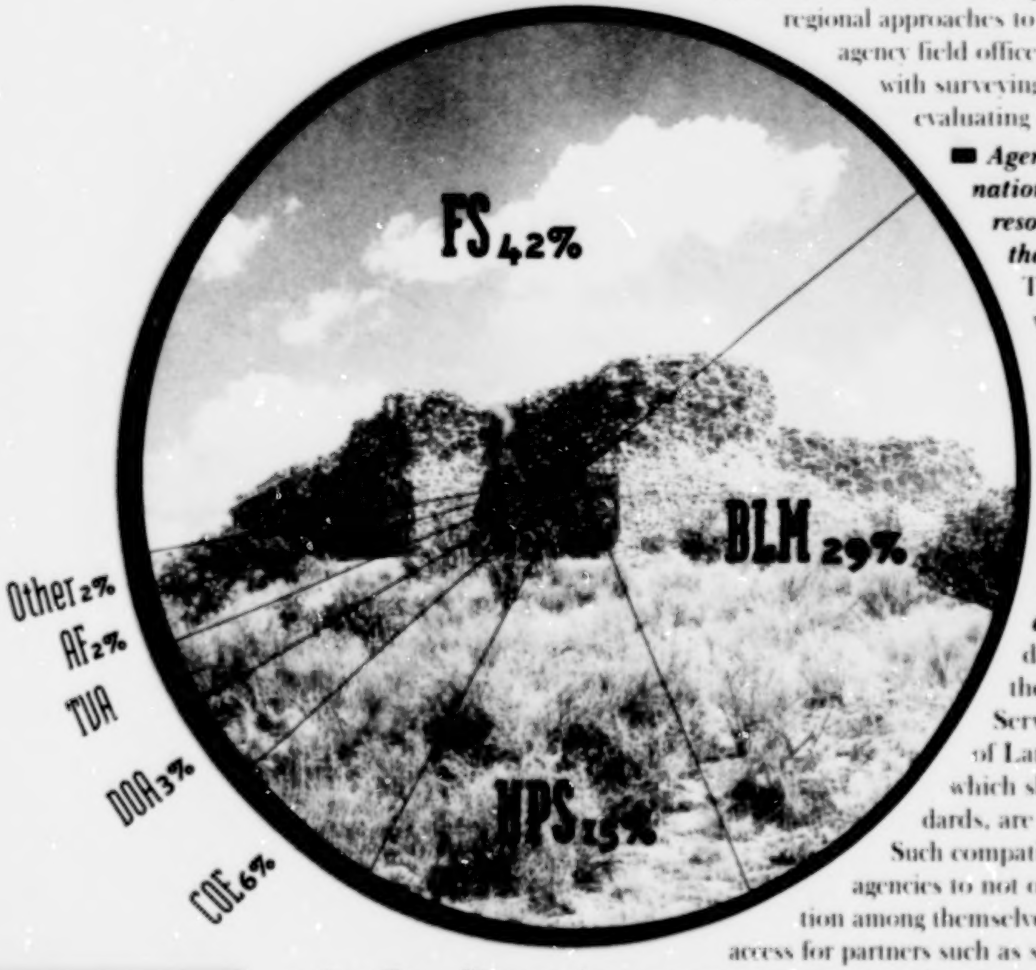


Figure 1: Archeological Crime on Federal Lands

Educating the Public

Many of the exemplary programs discussed in this report would not have been possible without cooperation. Partnerships and resource-sharing among agencies, universities, and the private sector have been—and will continue to be—essential to reaching the public. There is no doubt that public education has improved in recent years, largely due to action in the areas mentioned here. There is room for improvement, however, and an ongoing need for innovation.

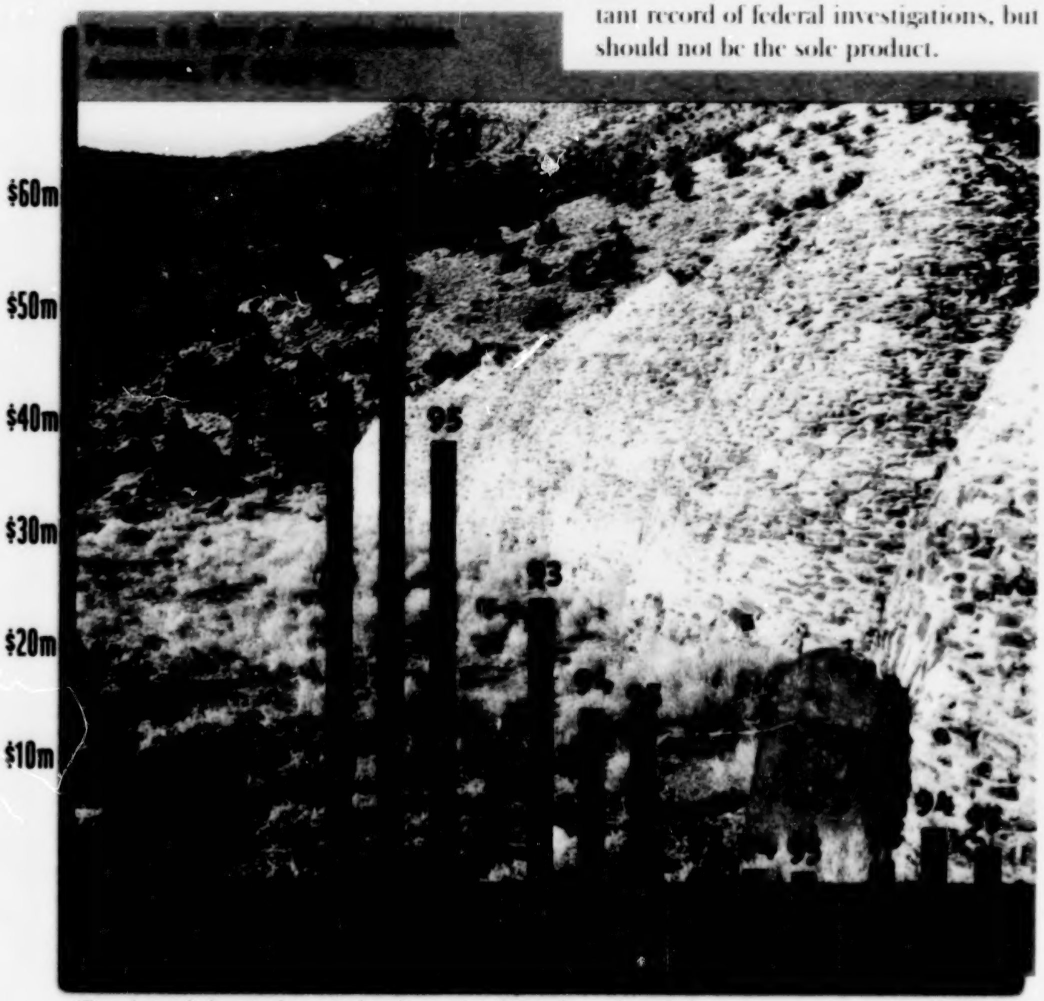
All indications point to an increasing public interest in archeology, and more ambitious efforts on the part of agencies in the realm of education. However, a way to measure the benefits of these efforts remains to be found. If, for example, an agency educates teachers on how to bring archeology into the classroom, how will their students' enrichment ultimately be measured? Do participants at archeology week events come

away with a new respect for the nation's heritage? Agencies must continue to search for ways to assess the effectiveness of their efforts.

■ ***Public programs and products should be periodically reviewed.*** This is essential to ensuring that they are communicating accurately and effectively.

■ ***Scientific reports of federal archeological investigations should be interpreted for the public and made available in popular publications and other media.*** These reports are notorious for their inaccessibility. Granted, technical reports are an important record of federal investigations, but should not be the sole product.

What does it cost to care for America's archeological heritage? Since some agencies did not provide data for this report, it is difficult to provide exact figures. The costs here, however, are a conservative estimate.



*The gathering of information from a site through excavation, photography, or other method.

NPS HARPERS FERRY CENTER

Conserving Collections and Records

Much needs to be done in this area of the federal program. Several agencies (such as the Corps of Engineers, Fish & Wildlife, the Department of Defense, the National Park Service, and the Bureau of Land Management) are taking the lead in developing comprehensive policies for the long-term care of their collections and records. Still, a substantial portion of the nation's archeological archives and collections are in disarray and in sub-standard facilities.

■ ***Agencies must locate their collections, assess their condition, evaluate the facilities in which they are kept, and ensure adequate curation.*** This reporting period saw some notable accomplishments, but additional funds are needed. Many holdings in non-federal facilities are not monitored.

■ ***Agencies should cooperate with state and local institutions to improve the care of collections and ensure their appropriate use.*** Agencies should work closely with museums housing federal collections to promote their use for education and exhibition.

■ **LEFT:** Park Service preservation crew receives a shipment of supplies to shore up Colorado's Chimney Rock ruins.

1

Preserving the Archeological Record

In FY 1994-95, federal agencies continued to document the vast numbers of archeological sites on lands they manage. In 1995 there were nearly 55,000 archeological activities, up more than 2,000 from the year before (Figure 3) and up 70 percent since 1987. This progress notwithstanding, of nearly 740 million acres of federal and tribal land, only 9 percent has been surveyed for archeological sites.

Planning and overview studies were the most common activities in FY 1994-95, followed by surveys to identify and evaluate sites. The intensity of the surveying—which runs the gamut from cursory inspections to in-depth examinations—depends on what is already known about an area and whether a large project, like a federal highway or dam, is in the works. Between 1993 and 1995, the amount of land surveyed jumped from 43 to 73 million acres (yielding a 66 percent increase in known sites), but most of the rise came from large land management agencies such as the Forest Service and the Bureau of Land Management. Given the size of the tracts they manage, this is relatively slow progress. The army and navy, by comparison, have surveyed a much larger percentage of their lands (Figure 4).

Data recovery projects—excavating or otherwise analyzing sites that cannot be preserved—saw a 60 percent jump, but remain between 1 and 2 percent of total activities (Figure 4). Although the unanticipated discovery of sites remained less than 1 percent of the total, too often these sites are destroyed in the process of discovery.

Left: Surveyors at New Mexico's Bandelier National Monument.

To reduce unanticipated discoveries—and to help land managers better understand the sites in their care—there is a need for more reliable inventory methods. Agencies also need to come up with better strategies for managing sites and reducing the backlog not evaluated for listing on the National Register of Historic Places, which is essential for their long-term protection. Of sites discovered in FY 1995, only 3 percent were listed. And as Figure 5 shows, the National Park Service accounted for 77 percent of the total number of sites listed. Most agencies had less than 2 percent.

As for preserving collections and archives—also essential to the archeological record—agencies are devoting time, staff, and funds, but not enough (see Chapter 4).

Looking at the Long Run

NATIONAL STUDY EXAMINES AGRICULTURE'S EFFECT ON SITES

It is estimated that there are about six to seven million archeological sites in the contiguous 48 states, nearly half of which are on private land used for agriculture.

Above: Protective vegetation covers an Indiana archeological site under the USDA's conservation reserve program.

At one time, the remnants of the nation's past were plentiful across the land. But as the forests, plains, and river valleys were cleared for agriculture, archeological sites disappeared in great numbers. Recent years, however, have seen landowners and government cooperate on innovative strategies to protect sites on private land. A new study hopes to produce a nationwide profile of the issue and give planners an idea of what to expect in the future, so that our national heritage continues to be protected.

The Natural Resources Conservation Service has launched a first-of-its-kind national study of how agricultural practices affect archeological sites on private land. Though its mission is monitoring the health of our natural resources, NRCS, like other federal agencies, also has a responsibility to care for the nation's irreplaceable cultural resources. Because most forms of agriculture often disturb archeological sites, the agency is developing policies to protect them.

Much of the service's work is with private landowners, offering technical assistance in such matters as terraces or watersheds. When archeological sites are found in the process, NRCS encourages owners to help preserve them. Though they are not obliged to do so, many are eager to cooperate.

Currently in its early stages, the project has produced an initial picture of the number of archeological sites in the country, their densities in different regions, and the impact of various types of agricultural practices. The study will also look at the threat posed by such natural forces as erosion.

What the study has turned up so far illustrates the importance of taking action. It is estimated that there are about six to seven million archeological sites in the contiguous 48 states, nearly half of which are on private land used for agriculture. Nineteen percent of these are or will be directly affected by land leveling, improved farming equipment, the construction of drainage ditches, and land clearing.

To date, the study's focus has been to find out how computer technology like Geographic Information Systems can help discern trends so that the issues can be better understood and policies developed to enhance protection. GIS, one of the most recent and useful technological tools for managing land, can store, sort, and recover geographic data such as maps, images, and other information related to archeological sites and trends in land development. So far, researchers have used GIS to look at the nation county by county, using it to illustrate such things as the distribution of archeological sites and where various types of agricultural practices are used.

For over 50 years, NRCS has analyzed and quantified our natural resources. The 1977 passage of the Soil and Water Resource Conservation Act brought about a continuous series of inventories, conducted every five years. Two appraisals conducted in the 1980s raised a number of new concerns, among them the potential destruction of archeological sites and historic properties. This is what prompted the current study.

Hopefully, the new study will give policymakers a clear picture of a complex issue in which varied interests must be addressed. The information it ultimately provides may be used to forecast the impact of future agriculture, to see where the urgent priorities lie, and to work out options. An example of the success that is possible is the USDA's Conservation Reserve Program, which has protected some 16,000 archeological sites, illustrating that agriculture and archeology need not be mutually exclusive.

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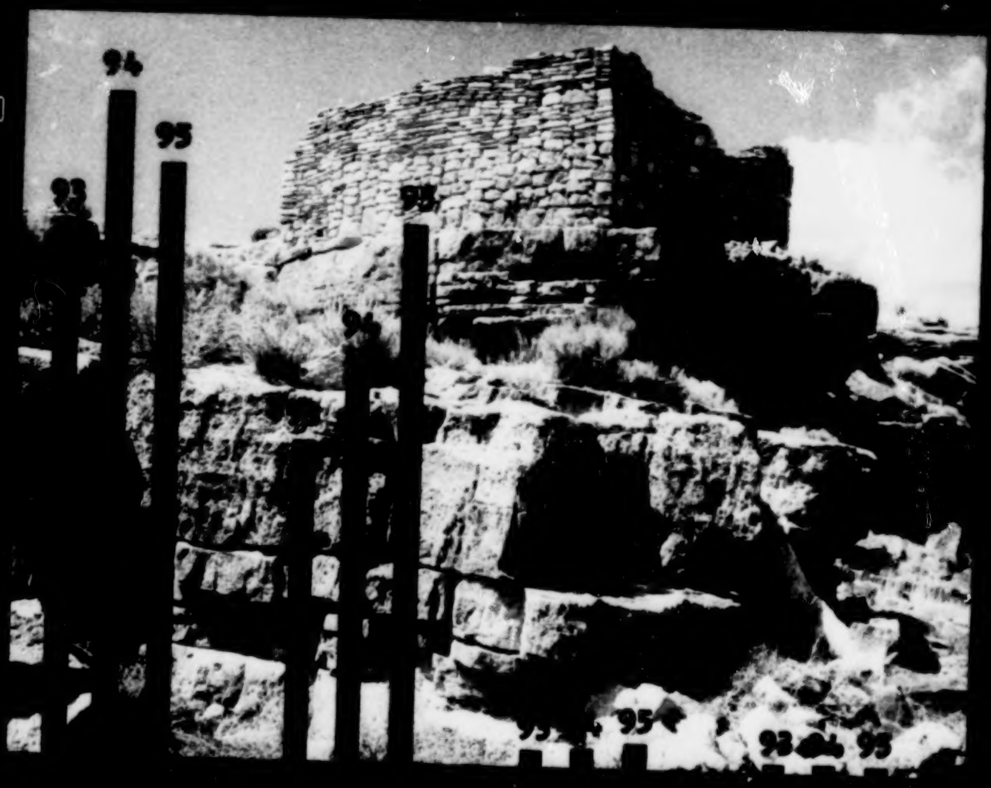
The Real McCoy?

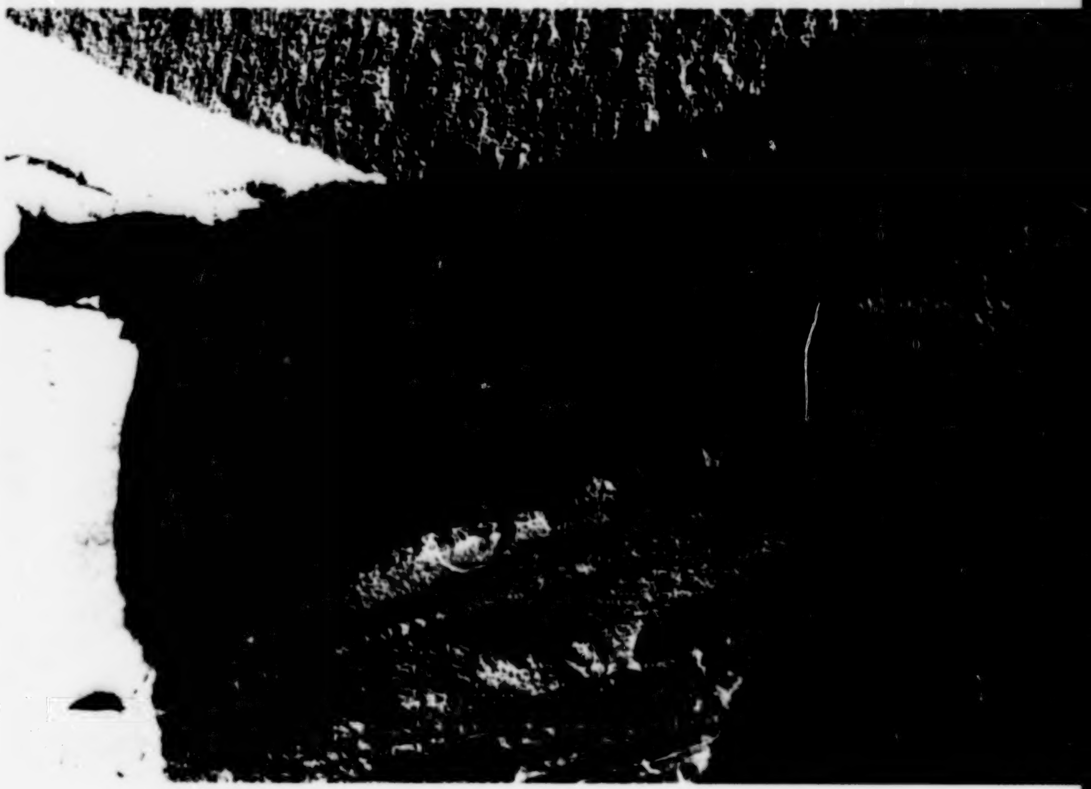


Deciphering a Monument

NATIONAL PARK SERVICE TAKES STOCK OF A TREASURE

The handwriting of 15 centuries lines the steep and silent walls of Canyon del Muerto—5,000 panels of rock art, with up to 1,000 inscriptions on each one—typifying the abundance of perishable artifacts scattered about the towering cliffs, hidden alcoves, and desiccated river banks in this remote corner of Arizona's Canyon de Chelly National Monument. The silence belies the canyon's extraordinary lineage of inhabitants, from ancient cliff dwellers to Navajo warriors, which the Park Service is recording in the most intensive, multi-faceted reconnaissance of the monument ever attempted.

So far, investigators have added over 500 previously unknown sites to the monument's inventory—among them the depressions of once-great kivas and the walls of pueblos worn down by centuries of flooding.



RIGHT: A 19th century Navajo rock painting depicts a column of Spanish soldiers entering Canyon de Chelly. Rock art illustrating documented events can be found throughout the area.

So far, investigators have added over 500 previously unknown sites to the monument's inventory—among them the depressions of once-great kivas and the walls of pueblos worn down by centuries of flooding—as they chart the rise and fall of communities over the centuries. Perhaps most surprising is the wealth of evidence left by the canyon's earliest residents, the Basketmakers, including stone coffins dug out of alcove floors, some still covered by mat roofs smeared with a greenish shale plaster.

The surveyors studied the entire 25-mile length of the canyon, clambering up slick expanses of rock to get to remote alcoves carved out of the cliff face by millions of years of weathering. Each site was mapped and photographed, its significance analyzed and condition evaluated. Many side canyons have their own "microenvironments" that require preservation strategies tailored to the setting.

The results of the survey—including soil analyses and GIS maps—were entered into a database designed to help the Park Service manage and interpret the monument. A second database, which houses almost 7,000 project photographs, can be sorted by categories ranging from "rock art" to "eroding structures."

In addition, the park historian is inventorying the cultural landscape of the canyon—including sites still considered traditionally significant by the Navajos—and analyzing the impact of soil conservation projects in the 1930s on the evolution of the canyon floor. Preliminary results demonstrate that changes wrought in the 20th century, as with so much of the American West, have been widespread and dramatic.

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In Advance of Disaster

Excavating Philadelphia's Foundations

PRISON CONSTRUCTION UNCOVERS CROSS SECTION OF CITY'S PAST By Charles H. LeeDecker

In the summer of 1995, visitors to Philadelphia's Chinatown district saw more than 200 years of the city's history come to light during an excavation preceding the construction of the Metropolitan Detention Center at North 7th and Arch Streets, funded by the U.S. Bureau of Prisons. Public interest escalated as the excavation progressed, with office workers frequently visiting the site or watching from windows high above the street. An outdoor exhibit informed first-time visitors about the excavation.

Research revealed that Isaac Zane built the first house on the site around 1700.

HISTORICAL SOCIETY OF PENNSYLVANIA

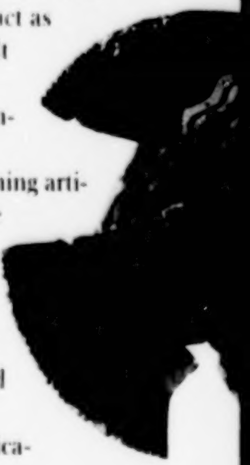
ROB TUCHER, LOUIS BERGER ASSOCIATES

Zane subdivided the block, which was then settled by artisans. Townhouses built in the early 1800s—when the block was subdivided again—stood until the Civil War, when they were rebuilt as commercial buildings or small factories.

Urban archeology requires heavy equipment to cut through pavement and remove fill. At this site, a team of archeologists used backhoes and dump trucks together with the usual tools of excavation—shovels and trowels—to expose the 19th century foundations. More than 50 circular brick features were also located, including wells, necessaries (outhouses), and cisterns used to collect rainwater. Some of these—which often served as trash receptacles—were as deep as 25 feet. Today, these features act as windows into the lives of past occupants of the site. One of the privies, built between 1810 and 1818, contained artifacts probably left by the Charles Clayton household. Clayton, a coachmaker, and his wife, Eleanor, had a family of 12 and had both a dwelling and a coach shop on one of the lots.

The archeologists were surprised by a soil layer from the 1760s-80s containing artifacts associated with brewing, metalworking, button making, carpentry, stone carving, shoemaking, and stained-glass making. One of the most important finds was a large amount of broken redware vessels from a nearby kiln. In the 18th and 19th centuries, Philadelphia was famous for its red earthenware, and merchants of the early republic proudly advertised that they had "real Philadelphia" pottery for sale. Sent as far as New Orleans and South Carolina, Philadelphia red earthenware became the standard.

The archeologists prepared a technical report on the site as well as a publication for the general public. The artifacts will be curated by a local museum.



The archeologists were surprised by a soil layer from the 1760s-80s containing artifacts associated with crafts and industries such as brewing, metalworking, button making, carpentry, stone carving, shoemaking, and stained-glass making.

Above Left: Philadelphia streetscape, late 1800s, depicting a row house at 7th and Arch Streets.
Above Right: Foundations exposed during construction of the new detention center.
Opposite: Philadelphia earthenware, a popular and widely-traded commodity in the coastal cities of colonial America.

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Unanticipated Discovery

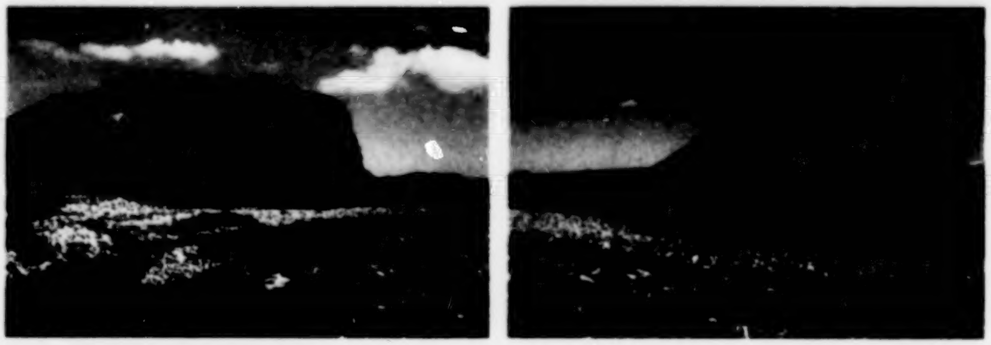
In Search of the First Americans

A Story of Deepening Complexity

By Robert King

WHEN DID the first people come to the Western Hemisphere? And who were they? BLM scientists in northern Alaska are at the cutting edge of new theories about the first Americans. The emerging picture from their research heightens the complexity surrounding one of the most enduring anthropological questions of our time.

For much of the 20th century, scientists have scoured remote parts of Alaska for clues to North America's first inhabitants—paleoindians. In 1978, when BLM archeologists were surveying public lands north of the Arctic Circle prior to oil exploration, they discovered several stone projectile points that had probably been mounted on lance-like spears. Initial radiocarbon dating indicated the points were around 7,600 years old, not even close to the oldest artifacts found in the New World. But by the late 1980s a more precise dating method had been perfected—accelerator mass spectrometry. This showed that some of the artifacts from the Mesa site, as it was called, were in fact nearly 12,000 years old. The finding stunned archeologists, and the Department of Interior subsequently funded a five-year research project that concluded in 1997.



ABOVE: Alaska's Mesa Site yields clues to ancient questions.

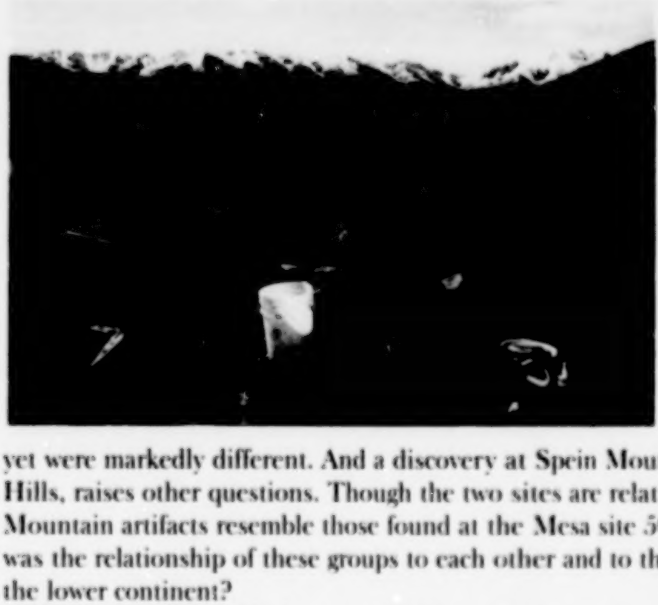
Lying atop a mesa-like rock outcrop, the location of the site is nothing less than breathtaking. From 200 feet up, ancient hunters had a 360 degree vantage point for spotting game such as bison and, possibly, mammoths.

Until the site was discovered, archeologists generally accounted for the early cultures in the lower 48 as the products of a single migration out of Asia. But the distinctiveness of the stone points found here—and at the Putu site 160 miles to the east—indicate that perhaps there were several migrations (Mesa artifacts range in date from 9,700 to 11,700 years old). Early Alaska may have been occupied by different cultures who spoke different languages, and had distinct ways of making tools.

The Mesa and Putu artifacts have amazed archeologists with their close resemblance to paleoindian tools found to the south. As a rule, little of what is found from early Alaska resembles anything from paleo sites in the lower 48. This means that the descendants of the Mesa culture might have gone on to establish themselves further down the continent.

Archeological research on BLM lands west of Anchorage revealed other intriguing clues. At the Lime Hills Cave site, 10,000-year-old artifacts were found, including microblades, small, skillfully made cutting tools not found in the lower United States. They suggest that the bow and arrow may have been used in Alaska earlier than previously thought. The Lime Hills items are similar to a well-known style of artifacts found

OTOS ROBERT E. KING/BLM



Above and Right:
Archeologists investigate the Mesa Site in a quest to unravel the origin of the earliest Americans.

about 20 years ago in the Nenana Valley, south of Fairbanks. Such close technological resemblance suggests that the makers were culturally related. If this is so, the Lime Hills-Nenana Valley culture was widespread in Alaska. Radiocarbon dating of artifacts shows that the Mesa and Lime Hills people were in Alaska at about the same time, and yet were markedly different. And a discovery at Spein Mountain, 200 miles from Lime Hills, raises other questions. Though the two sites are relatively close, the Spein Mountain artifacts resemble those found at the Mesa site 500 miles to the north. What was the relationship of these groups to each other and to the paleoindian cultures in the lower continent?

What happened in Alaska over 11,000 years ago may teach us lessons about how people adapted—or did not—to the rapidly changing climate as the Ice Age ended. This could give us more perspective on our place in nature and our adaptiveness as a species. We may also find some of the most elusive truths about human history.

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2

Preventing Vandalism and Looting

America's archeological sites, material witnesses to the nation's heritage, continued to be lost throughout FY 1994-95. Sometimes, the cause was urban development, sometimes the elements. But these can, to some extent, be tempered or predicted. A more difficult challenge is the human factor: people who loot and vandalize archeological sites—or traffic in illegally obtained artifacts—for pleasure and profit.

Federal agencies face not only the task of enforcing the law in often remote places, but of educating the public as well. They do so with tight budgets, slim staffs, and under an all-too prevalent perception of the past as novelty or commodity.

A refined picture of looting is emerging thanks to systematic monitoring by agencies and the increasing number of violations reported by the public. The reporting period saw a drop in the number of incidents compared to 1993 (Figure 6), but this should not be interpreted as a real decrease in looting. Regional studies demonstrate that the rate of loss is probably far greater, since most violations go unreported.

There were dramatically fewer arrests in 1995 than in 1994, ending a four-year increase (Figure 6). And after a record increase of arrests per violations in 1994 (31 percent), 1995 saw that figure drop to 13 percent—a seven-year low.

Though prosecutions under the Archaeological Resources Protection Act rose, agencies continue to favor other statutes to prosecute. ARPA's civil provisions were underutilized, even though this type of proceeding is both time- and cost-efficient and fines can be collected immediately to restore sites after they are damaged.

Interagency cooperation greatly improved. Joint investigations—and teams specializing in archeological crimes—proved an excellent method of handling cases.

One of the most optimistic developments was the growth of an aggressive effort aimed at training archeologists, land managers, law enforcement personnel, and attorneys. A 40-hour ARPA course is now available both locally and regionally through the Federal Law Enforcement Training Center. The National Park Service and the Department of Justice also developed a program for lawyers and judges; the rising conviction-to-arrest rate evidences its success. If the trend of destruction is to be stemmed, interagency cooperation and the emphasis on training must continue.

LEFT: At Washington State's Horsethief Lake Park, preservation instructor and Squaxin Island tribal member Jim Rodgers stands with trainee in front of "She Who Watches," a 300-500 year old rock art painting thought to represent death from diseases borne by Europeans.

Rock Art Patrol

PACIFIC NORTHWEST PROGRAM ENLISTS TRIBES, AGENCIES, PUBLIC

Above: The rich heritage of Horsethief Lake has prompted an alliance of Indian, state, and federal groups to protect sites from looting and vandalism.
Below: Planting a cyber-stake, an electronic reference point for keeping track of archeological sites using global positioning systems technology.

DANIEL MEATTE/WASHINGTON STATE PARKS

Archeologist Daniel Meatte was about halfway into digging an auger hole at Horsethief Lake State Park when he found himself face to face with the county sheriff. A rock climber had mistaken Meatte for a looter, and promptly summoned the authorities with a cell phone from his perch on a nearby cliff face. The Washington State Parks archeologist, who was merely planting an electronic marker, had been snagged in a net that he himself had helped construct: a watch program that educates visitors to the park, which is on property leased to the state by the Corps of Engineers in compensation for land inundated by the Columbia River's Dalles Dam.

The park is home to one of the richest collections of Indian rock art in the region. Unfortunately, much of it is worn to near invisibility, so as climbers scramble up the rock faces, odds are that their boot soles will scrape or rub off the faded pigments.

The program, run by park superintendent Rich Davis, focuses particularly on the climbers—and with good reason. Situated in what was once a major trading crossroads that drew tribes from as far away as the Great Plains, the park is home to one of the richest collections of Indian rock art in the region. Unfortunately, much of it is worn to near invisibility, so as climbers scramble up the rock faces, odds are that their boot soles will scrape or rub off the faded pigments. This threat—compounded by heavy visitation (trails worn down to expose archeological deposits), looting (slabs pried from the fractured basalt to sell on the black market), and maliciousness (rock art riddled with gunshot)—led several groups to join forces to solve the problem.

Meatte, Yakima Nation cultural protection analyst Fred Ike, Sr., and a representative of the county convened for a brainstorming session with archeologists Charles James of the BIA, Scott Stuemke of the Warm Springs tribes, and Michael Boynton of the Forest Service. Along with the watch program, they came up with the idea that access to the trails be restricted to guided tours given only on Friday and Saturday. On the first tour, timed to coincide with Washington State archeology week, Ike was there to give the Native American perspective on the art.

Since then, as part of the watch program, superintendent Davis has "chanted the mantra of site protection" to climbers, school groups, community organizations, and visitors of all kinds, says Meatte. Local, county, and tribal police have all joined in.

The result, says COE archeologist Linda Watkins, is a "remarkable" change for the better. The Corps credits Meatte for the excellent coordination with the tribes that ultimately made the project possible.

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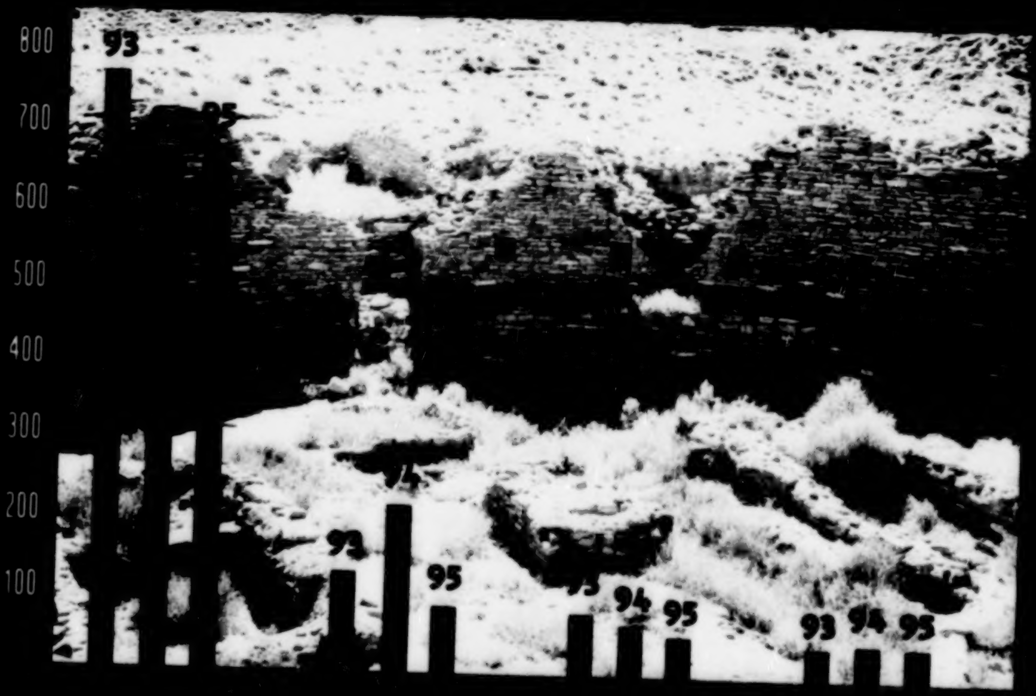
Winning Prosecution

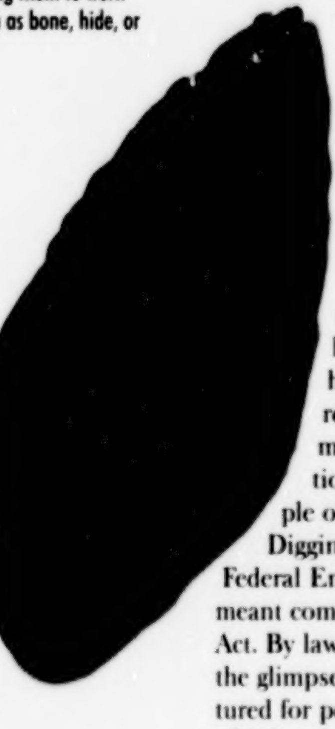


A Rapid Response to Archeological Crime

Pipeline to Preservation

Delaware Valley Project Yields Cooperation, Innovation

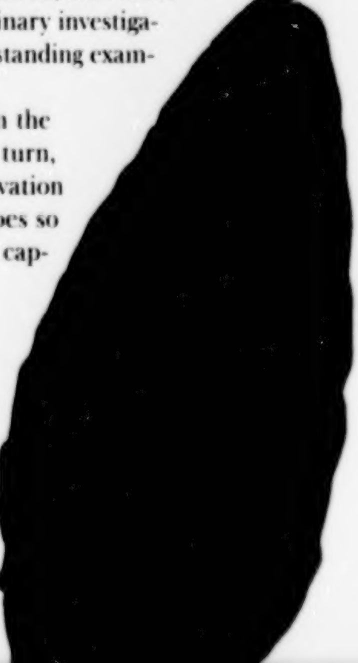
By Deborah Osborne and Chris Bergman



RIGHT: Researchers analyzed the microscopic polish on the tools found at the site, ascertaining their function by creating replicas (such as the arrowheads shown here) and using them to work materials such as bone, hide, or wood.

ONE AUTUMN 7,000 years ago, a band of Native American hunters stopped at a small terrace along the Delaware River. Some combed the river bank for good stones to replenish their tool kits. Others made a hearth in the ground, and from the surrounding woods collected hazelnuts to roast on the fire. In a river valley further north they had found chert of an exceptional quality, and now, while resting, they took out the prized black and grey stone to make projectile points.

In 1993, that river terrace, near what is now Easton, Pennsylvania, was the site of a dilemma encountered many times across the country each year. The Sandts Eddy site, as it is called, lay in the path of a natural gas pipeline. When alternative routes were examined, environmental issues arose that made them unfeasible. Law required that the archeological information be saved, but the pipeline had to go through. What followed would be a remarkable example of interagency cooperation, innovative methodology, and exhaustive, cross-disciplinary investigation. In short, Sandts Eddy became an outstanding example of preservation in the public interest.



Digging for the pipeline required a permit from the Federal Energy Regulatory Commission, which, in turn, meant complying with the National Historic Preservation Act. By law, archeologists would precede the backhoes so the glimpse of the past offered by the site would be captured for posterity.

Little was known about the early people of the Delaware Valley, and few deep sites had been excavated professionally. Sandts Eddy had the potential to fill in gaps in the archeological record. However, Transcontinental Gas Pipe Line Corporation—the line installer—was concerned. Could the dig be discontinued if few artifacts

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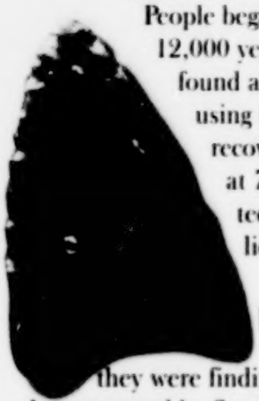
were found? Soil core samples revealed that the site had been flooded repeatedly over the millennia and that there were ancient land surfaces to a depth of 15 feet, with the earliest radiocarbon dated to 8,150 BC. Deep excavations require shoring trenches and safety equipment. Would there be a return on the money, time, and labor invested?

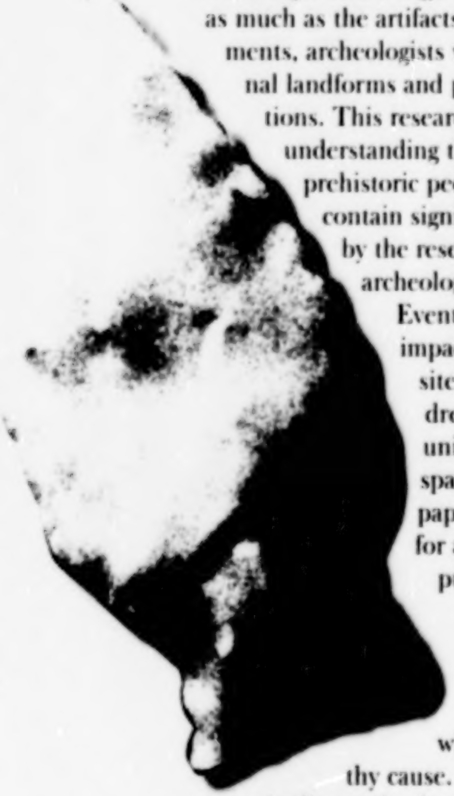
The Pennsylvania Historic Preservation Office, which is authorized to oversee compliance with NHPA, proposed this strategy: Two exploratory pits would be dug, and if fewer than 10 artifacts per cubic meter of soil were found, the dig would stop. All parties—FERC, Transco, and the archeological consulting firm 3D/Enrironmental—agreed that this artifact density threshold was reasonable.

At first glance, there were few clues to the ancient scenes that took place at Sandts Eddy. But through innovation, meticulous excavation, and extensive lab analysis, the site yielded its secrets.



People began using the area after the last Ice Age, which ended about 12,000 years ago. Researchers analyzed the microscopic polish on the tools found at the site, ascertaining their function by creating replicas and using them to work similar materials such as bone, hide, or wood. The recovery of bifurcate (fork-based) projectile points, radiocarbon dated at 7,400 BC, suggests that this hallmark stone tool technology appeared about 500 to 1,000 years earlier than previously recorded in the Northeast.

"Point proveniencing," or recording the precise position of each artifact in space, enabled archeologists to prove that what they were finding was not just a hodgepodge of materials rearranged by flooding, but that the artifacts were close to the way Native Americans had left them. Another payoff was the geoarcheology, where the team valued the sediments as much as the artifacts in them. From examining the sediments, archeologists were able to get an idea of the original landforms and prevailing environmental conditions. This research has helped pave the way to understanding the kinds of locations frequented by prehistoric people, and therefore most likely to contain significant sites. The database generated by the research will save money on future archeological surveys.



Eventually, 71 percent of the area to be impacted by the pipeline was excavated. The site's visibility along well-traveled Route 611 drew visitors of all ages, and frequent tours by university professors and students. The project spawned a host of professional papers, public lectures, and newspaper and television reports. A local citizen nominated the project for a state preservation award. Citing the interdisciplinary research, public involvement, and exemplary cooperation among private industry and federal and state agencies, the award was the first ever conferred on an archeological project in Pennsylvania.

The NHPA allowed the pipeline to proceed while preserving a chapter in our irreplaceable past. The agencies will continue working together for the common good and a worthy cause. And lighting a gas stove has become more meaningful because pipeline archeology has given us a millennia-old glimpse of our heritage to keep.

ALL PHOTOS CHRIS BERGMANN, 3D ENVIRONMENTAL

3

Educating the Public

In the mission to preserve the nation's archeological heritage, winning the hearts and minds of the public is vital. Over the years, the federal government and private groups have appealed to the public in a variety of ways, and FY 1994-95 offered encouraging results. Citizens are preserving the past, hands-on, in their local communities, working to protect collections and records as well as archeological sites.

While there can be little doubt that public involvement is growing, the actual breadth of it is difficult to capture. Many agencies reported that their projects used volunteers, but few identified how many, the hours they contributed, or the associated savings. Future reports will measure public participation more accurately.

Some examples stand out, however. At the BLM's Anasazi Heritage Center in Colorado, volunteers contributed over a quarter million dollars in time and services. The Forest Service's Passport in Time program, in which people participate in actual digs, remains one of the most popular and widespread in the nation. Arizona's "site stewards" program, in which citizen-volunteers take part in archeological crime watches, has inspired like efforts elsewhere.

Agency archeologists are taking the message to schools as well, resulting in programs like BLM's "Exploring Oregon's Past," and the joint Air Force-NPS teachers' workshops on the legacy of Native Americans in Georgia. It is becoming increasingly common for agencies involved with archeology to train teachers and develop curricula.

Archeology weeks, which states sponsor to promote preservation, are also increasing in popularity (Figure 7). Federal agencies often provide funding, staff, and other resources to make these events possible. More and more, agencies are entering into cost share or cooperative management agreements with other federal, state, and local entities—as well as with museums, universities, and private groups—to enlist the general public and the schools.

DEBORAH LEBLANC/HIAWATHA NATIONAL FOREST

ABOVE: Girl Scouts at an archeological site in Hiawatha National Forest on Michigan's Upper Peninsula.
LEFT: Ranger Rich Davis leads a tour of rock art sites at Washington State's Horsethief Lake park, which is on the National Register of Historic Places.

Discovering Archeology

THE INTRIGUE OF THE PAST By Jeanne M. Moe

An archeologist's job is to discover amazing old things, right? You know—ancient temples covered with moss, a chief's burial mound, golden statues, a giant ceramic jar filled with seeds, shiny stone tools glittering in the sun—that kind of thing. Then it's just a question of digging the sites up or collecting artifacts for a museum display, right?

Wrong. Since 1992, teachers and students across the nation have been discovering what archeology is really like through the Project Archaeology education program sponsored by the Bureau of Land Management. They are finding that archeology is much more than discovery and digging. It is a sophisticated and precise science that can tell us a great deal about ourselves and our past, essential information as we plan for the future. More importantly, they are learning that if we don't preserve sites and artifacts, the only link to much of our past, there will be little left for our descendants to study and enjoy.

Since 1992, teachers and students across the nation have been discovering what archeology is really like through the Project Archaeology education program sponsored by the Bureau of Land Management.

Above: Teacher takes notes at a workshop sponsored by BLM's Project Archeology. Said one participant from Billings, Montana: "I want my students to acquire an appreciation for their own history while learning to appreciate that of others at the same time."

Project Archaeology originated in Utah in response to increasing vandalism of sites and was later adopted as the classroom portion of BLM's national heritage education program. Its goal is to teach all young Americans to appreciate and preserve our rich cultural legacy, thereby curbing senseless vandalism, illegal excavation, and theft. The program, which was built on partnerships, continues to thrive with the help of partners such as the National Park Service, U.S. Forest Service, state agencies, and the private sector.

Project Archaeology supplies teachers with the materials and training they need to bring archeology to life in the classroom, expose students to real conservation issues, and connect young people with the past. This unique program reaches elementary and secondary teachers and their students through individualized state programs with three components:

- High quality education materials that are easy to use, meet educational standards, and fulfill archeological learning goals
- Basic workshops that show educators how to use the materials and handle complex issues such as conservation, federal and state laws, and Native American perspectives
- Advanced workshops, field projects, newsletters, and awards for educators, all of which sustain learning and involvement.

Besides Utah, eight states have established Project Archaeology programs: Alaska, Oregon, Wyoming, Arizona, New Mexico, Pennsylvania, Tennessee, and Alabama. Ten states are developing programs and many more have inquired about sponsorship. Nationwide, nearly three thousand teachers have been trained and they, in turn, reach tens of thousands of students every year. As more states are added to the Project Archaeology family, the ranks of trained teachers will grow exponentially.

Do young people exposed to the program now value our shared heritage? Have they changed their attitudes? A teacher from Clinton, Utah, gave her answer: "My students, in three short lessons, have developed quite strong opinions on what is right and they are quite concerned about protecting Utah's treasures. These values are important not only in archeology but in everyday life."

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Bringing Archeology into the Classroom

Contact Points

State Web
Archeology Web

Pioneer Legacy

OHIO VOLUNTEERS RECLAIM AFRICAN AMERICAN PAST

Like archeology, history has its layers, obscured by the passage of time.

The Payne Cemetery, nestled on a narrow ridge straddling Wayne National Forest just south of New Straitsville, is the only visible evidence of an enclave of African American pioneers who came to the area in the early 1800s. It is unclear whether Payne's Crossing, as the place was called, was actually a town or just a stop on the rail line. What was clear is that the small cemetery—which had seen its last funeral in 1927—was overrun with brush, many of its sandstone markers toppled, eroded, or stolen, its road sign pockmarked with bullets. Memory of the pioneers had been supplanted by more recent history: some thought the cemetery was the final resting place for strikebreakers brought in during the turn-of-the-century coal boom.

Memory of the pioneers had been supplanted by more recent history: some thought the cemetery was the final resting place for strikebreakers brought in during the turn-of-the-century coal boom.

But Wayne archeologist Ann Cramer saw something else: a chance to reclaim the place and its heritage. "I was told it was a black cemetery, and I noticed there were some black Civil War veterans buried in it," she says. "I was told they were buried there because, at that time, they couldn't be buried in a white cemetery." Cramer cast a net for volunteers through the Forest Service Passport in Time program, eventually getting a call from a member of a Lancaster, Ohio, genealogical society.

COLUMBUS (OHIO) DISPATCH

COLUMBUS (OHIO) DISPATCH

Above Left: James H. McQueen, one of several prison inmates who lent a hand cleaning up the once overgrown and forgotten Payne Cemetery.
Above Right: Army Captain Verb Washington chats with reenactors of the 5th Regiment of U.S. Colored Troops at the dedication of the restored cemetery. Washington wrote a dissertation on the regiment, five of whose members are buried there.

Society members rolled up their sleeves, clearing brush and debris from the stones and pursuing descendants through the archival records. Cramer successfully lobbied for repairs under the Passport in Time grants program, and a spate of news articles put out the word on the project. Other volunteers came knocking: inmates from the Hocking Correctional Facility to help clean up and reset the markers, New Straitsville townspeople to assist with ongoing maintenance, and a mason to fashion a granite monument to tell the cemetery's story.

In the early 1800s, freed from slavery in Virginia, the Paynes and other families came west to the Ohio territory, some to settle in the Monday Creek Valley just south of New Straitsville. But by the turn of the century, they were gone, bought out by coal companies. Mining erased most of what was left except for the island of property where the cemetery stood.

With the help of descendants, the genealogists discovered that Payne's Crossing was once a thriving area, populated by coopers, coal miners, and farmers—"wealthy and well-respected residents," Cramer says, among them a druggist buried at the grave site.

After two years of hard work, the restored cemetery was rededicated in a major event. Sixty-two year old Richard Page, son of Rev. Thomas Page and Perina (Payne) Page, read from a letter by his daughter, U.S. District Judge Denise Page Hood: "We are living proof that the Paynes' strength and courage paid off and lives on in this generation and those to come. The Payne Cemetery is a memorial to that strength."

Jill Osborn, national coordinator of the Passport in Time program, added her thoughts. "Every so often a project comes along that reminds us of the beauty and tenacity of the human spirit," she said. "This is one of those."

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Cause to Celebrate

Above: [illegible]

Wild and Scenic Opportunity

Right: [illegible]

[illegible]

Trails West

AMERICA ON THE MOVE

By Carl Barna

What do Alaskan "mushers," Spanish traders, and Pony Express riders have in common? They are all people whose contributions to the development of this nation—from the Yukon to the Rio Grande—are woven together by the threads of America's historic trails.

> *In observance of the Oregon Trail's sesquicentennial, the BLM adopted "Trails West: America on the Move" as a theme to tell the story of the challenges and hardships faced by people, both immigrant and native, who struggled to accommodate themselves to the land and to each other.*

In response to the 1988 amendments to the Archaeological Resources Protection Act, the Bureau of Land Management developed its "Adventures in the Past" initiative. "Adventures" focuses on thematic or regional events that showcase the great variety of sites managed by BLM. It also seeks to promote a conservation ethic among all Americans through partnerships with other governmental agencies, educational institutions, professional societies, and tourism associations. In observance of the Oregon Trail's sesquicentennial, the BLM adopted "Trails West: America on the Move" as a theme to tell the story of the challenges faced by people, both immigrant and native, who struggled to accommodate themselves to the land and to each other.

BLM lands are crossed by approximately 3,600 miles of national historic trails. Other trails of historic significance cover hundreds of miles more. In partnership with state and local governments, interest groups, and others, BLM specialists have carried out a wide variety of projects to increase public appreciation of these unique resources.

In Alaska, a poster commemorating Iditarod National Historic Trail grew out of several projects, among them a site inventory/oral history done in cooperation with the state's office of history and archeology and the relocation of part of the trail by BLM archeologists and other partners. Utah BLM hosted the 1994 annual meeting of the Oregon-California Trails Association; in addition to leading interpretive tours, BLM worked with the association to more accurately mark the Donner-Reed route using Global Positioning System mapping. In Nevada, BLM archeologists—together with University of Nevada-Reno archeology students and volunteers—investigated the site of the Jacobs Well Pony Express Station; thanks to their work, visitors now can appreciate how archeology has illuminated the daily life at this remote frontier site.

Across the Southwest, historic trails tell a fascinating story of Spain's often overlooked role in American history. The BLM, together with Mexico's National Institute of Anthropology and History, New Mexico State University, the New Mexico State Monuments Division, and others, is working to tell this story through the planned El Camino Real International Heritage Center, near Socorro. One part will come from the findings of an internationally sponsored archeological field school at the Paraje San Diego, which explored the remains of a 17th century Spanish campsite along the trail.

When Horace Greeley said "Go west young man, and grow up with the country," little did he realize the legacy of his words. The BLM has been hard at work to see that this story is preserved and interpreted for future generations.

Above Left: Native American rock art along Arizona's Butterfield Trail.
Above Right: A dog team makes tracks along Iditarod National Historic Trail in Alaska.

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Four Corners in Alignment

Glimpsing the Ice Age

Many Partners Make for a Mammoth Accomplishment

By Sue Miller

ABOVE AND RIGHT: A mammoth tusk, wrapped in protective plaster, is lifted from the excavation site at Tolo Lake.

A CHANCE ENCOUNTER in northern Idaho led to a fossil find of national importance, bringing researchers face to face with the Ice Age.

In the fall of 1994, bulldozer operators at Tolo Lake, near the northern Idaho town of Grangeville, made an unexpected discovery. While deepening the lake to improve fisheries, they encountered fossil bone and mammoth tusk. At first glance, the discovery looked like a job for paleontologists. But when mammoth remains are found, archeologists typically participate because the site could yield important clues—often subtle—to human activity.

Experience suggests that there is a magnetic attraction between mammoth skulls and heavy equipment, that major archeological and paleontological finds will be serendipitous, and that they will take place late in the season, during bad weather, just before the end of the fiscal year or three-day weekends. This discovery validated all of the above.

Since the lake is state property, the find was reported to the Idaho state archeologist and a late-season investigation started by a paleo-SWAT team of archeologists, paleontologists, and volunteers. A host of federal and state agencies pooled their resources, driven by a mutual interest in preserving this rare find. Support from the Park Service, the Bureau of Land Management, and the Forest Service came in the form of everything from fax machines, to tour guiding, to manual labor. To direct the excavation, the Department of Energy provided an archeologist (myself) employed by Lockheed Martin Technologies, which runs DOE's Idaho National Engineering Lab.

After determining that the mammoth fossils were abundant and exceptionally well-preserved, the site was winterized and an effort begun to field a major excavation in 1995. Despite the lack of major grant funding, the project hoped to recover the mammoth fossils for scientific study and eventual exhibition. More than just a salvage opportunity to obtain spectacular fossils, the Tolo Lake project was also designed to collect information about the process of fossilization, the natural history of mammoths, and what the environment was like during the Ice Age.

The excavation focused on three locations near the lake shore. One held a nearly complete skeleton of a large, adult male Columbian mammoth (*Mammuthus columbi*) who stood about 12 feet high at the shoulder, found embedded in deep lake sediments close to the shore. Another partial mammoth skeleton was uncovered from a similar setting and depth about 300 feet away. A scatter of well-preserved but broken skeletal parts of an estimated seven additional mammoths and three extinct bison (*Bison antiquus*) were found in shallow lake shore deposits not far from the complete mammoth. No evidence of human association with these animals was found, but the site is a first for this area and will contribute to our understanding of late Ice Age environments.

One of the big questions researchers hope to answer is how the mammoths died. There is speculation that some succumbed to wounds sustained while trying to defend the watering hole. Other causes of death could be disease or old age. No evidence has yet been found that they were killed by people. The exact age of the mammoth fossils has not yet been determined, but they are certainly older than 12,000 years.

Over 400 fossils—weighing 8,000 pounds when wrapped in plaster for preservation—were recovered. Along with associated information gleaned from careful mapping, examination of lake sediments, and photographing, the mammoth death assemblage from Tolo Lake made its way to the Idaho Museum of Natural History in October

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1995. This was no small accomplishment, and it was made possible by the enthusiasm and support of the local community. Over 200 volunteers from several states were trained in excavation and guiding tours. State and federal agencies loaned materials and equipment. Universities contributed labor and expertise. Almost all materials and logistical support were donated. Tolo Lake is also associated with the history of Chief Joseph of the Nez Perce; tribal members and Park Service staff worked at the dig and the site has been formally incorporated into Nez Perce National Historic Park.

The Tolo Lake project benefitted from the public's keen interest in fossils and its desire for hands-on participation in history, archeology, and paleontology. People were eager for the opportunity to visit a working dig, to see newly exposed fossils in their natural setting, ask questions, and share in the excitement of recovering the large bones. Volunteers sold T-shirts to raise funds for the excavation, one of which read, "There hasn't been this much excitement in Grangeville, Idaho in over 10,000 years!" Tolo Lake staff and volunteers conducted tours for several thousand visitors during the discovery month in 1994 and throughout the summer 1995 excavation. Over a thousand school children visited during the first two weeks in September 1995.

The Tolo lake project is a showpiece of cooperation. Not only were regulatory requirements fulfilled (protecting Idaho's antiquities), but a magnificent opportunity for scientific research and public education was realized as well.

Rain, snow, and natural springs have refilled Tolo Lake, and study of the fossils is underway. The mammoths live on, however, at a site on the World Wide Web, one of the many legacies of this rewarding project (see "contact point," opposite page).

BELOW: A volunteer amid prehistoric mammoth remains at the Tolo Lake excavation.

4

Conserving Sites and Collections

It is archeology's unique ability to teach about the past even as it gives a larger sense of place and humanity. This benefit may seem intangible, but it derives from things that are quite concrete: the artifacts and reports that come out of surveys and excavations, the all-important record of the work that has been done over decades and what we have learned from it.

Agencies are required to preserve and manage these collections for the long term. They also must evaluate their research value and their availability for study, exhibits, and teaching. Unfortunately, collections management needs to improve in many areas. Few agencies can accurately report on their collections and records. Most do not have a management plan and are unsure about where their collections are.

To give an idea of the magnitude of the task, of the 30 million archeological objects and more than 34 million archival records cared for by the Park Service, only 18 percent has been catalogued. The Bureau of Land Management has 24 million objects in its care, three quarters of which are housed in more than 220 non-federal facilities.

Nearly all agencies are making efforts to address the problem, launching surveys of repositories, assessing the condition of their collections, and making arrangements for better curation in the future. NPS and COE have taken the lead, with training in collections care and publishing technical information for museum professionals. Agencies are making use of a number of different arrangements for their records and collections. They cooperate with one another, with museums, and universities. As more agencies develop electronic cataloguing systems, the management of archival records—without which the artifacts themselves mean little—is improving.

Though the decades of accumulating artifacts and records have federal agencies playing catch-up, the issue is now widely acknowledged. This reporting period shows that though action is being taken, more needs to be done if these vital collections, and the legacy they represent, are to be saved.

Conserving sites is another important issue. As the number of known sites grows, so does the challenge of preserving them in place for future study and public enjoyment. Agencies must find alternatives to excavation and other forms of data recovery.

LEFT: Fragments of Southwestern pottery.

Preserving a Monument

REPLICATING THE HANDIWORK OF ANCIENT MASONS

By Sharon Hatch

Ancient architecture is a perishable artifact, and southwest Colorado's Chimney Rock Pueblo is a perfect example. Centuries of deep snows, hard rains, high winds, and extreme temperatures have conspired with burrowing wildlife, archeological research, and 15,000 annual visitors to erode the ancient monument. Past efforts to repair its earthen walls have done more harm than good, introducing mortars and masonry styles incompatible with those used by the original masons around AD 1050. Materials like Portland cement have accelerated the breakdown of the old sandstone brick and, ultimately, entire walls.

> *To avoid losing large sections of wall, the Park Service team took on the challenging task of repair using native clay and sandstone—acceptable materials by today's standards.*

Above: The handiwork of ancient masons at Colorado's Chimney Rock Pueblo.

Today, the monument is being preserved through a creative formula of technique and materials, art and science, and professional and public partnerships. Archeologists from Colorado's San Juan-Rio Grande National Forest, the prehistoric site and buildings preservation team from Mesa Verde National Park, and volunteers from the non-profit San Juan Mountains Association are collaborating in an aggressive preservation plan as part of the overall management and interpretation of the Chimney Rock Archeological Area, a network of over 200 sites.

The Park Service crew, one of the nation's most skilled in prehistoric architectural stabilization, began work in 1992 after the Forest Service acquired emergency funding to repair wall damage caused by an unusually harsh winter. To avoid losing large sections of wall, the Park Service team took on the challenging task of repair using native clay and sandstone—acceptable materials by today's standards. To assure structural integrity and maintain scientific and interpretive value, the crew precisely replicated the intricate designs of the early Pueblo masons.

Stabilizing walls is effective in neutralizing many agents of deterioration, but only temporarily. The Forest Service, which manages the site, must ultimately control the root causes. In the 1920s and again in the 1970s, some of the structures were excavated; now crews plan to partially backfill to protect the walls against assault by the elements as well as human contact. Before backfilling, the private firm of Fenton/Kerr Engineering will create precise architectural drawings of the structures under the direction of the Forest Service and the San Juan Mountains Association. This project will be completed with generous funding provided by the Colorado Historical Society.

The architecture at Chimney Rock is not only a scientific artifact, it is the main attraction for thousands of visitors every year. The San Juan Mountains Association, which also runs the guided tour program, strives to minimize direct impact to sites, delivering a strong preservation message by teaching proper visitor etiquette.

The creative strategy and spirit of cooperation this varied group of partners brought to the task of preserving Chimney Rock's perishable architecture is true cause for optimism in the stewardship of America's past.

Not Just Another Collector

Above:

Contact Point:

Joining Forces

Contact Point

Legacy in the Lab

STATE-OF-THE-ART CENTER PRESERVES 200,000 ARTIFACTS FROM STEAMBOAT WRECKAGE

Charles Lyell, who helped form the very foundations of evolutionary science, once said that "it is probable that a greater number of monuments to the skill and industry of man will, in the course of the ages, be collected together in the bed of the ocean than will exist at any other time on the surface of the continents." The recovery of the steamboat *Bertrand*, a monument to the rise of mining and agriculture in the mid-1800s, shows the power of this legacy when it is preserved in the public interest.

> *Artifacts are preserved in two separate chambers, each with independently controlled heat and air conditioning to maintain the diverse environments needed for the mix of organic and inorganic objects.*

Right: Excavation of the 19th century steamboat at the DeSoto National Wildlife Refuge in Missouri Valley, Iowa.

WOODMEN OF THE WORLD

The vessel sank in the Missouri River in 1865. Despite changes in the river's route—and a partial salvage—the boat remained buried until rediscovered and excavated between 1968 and 1969 by two Nebraska businessmen under the direction of National Park Service archeologists. Ultimately, the Fish & Wildlife Service erected a visitor center specifically to house, preserve, and exhibit the 200,000 objects recovered.

Preservation of the collection follows a 10-year plan developed in 1990. Staff of the center, located in the DeSoto National Wildlife Refuge, includes a registrar and a curator. Besides exhibits, the facility houses a research library and conservation labs. Artifacts are preserved in two separate chambers, each with independently controlled heat and air conditioning to maintain the diverse environments needed for the mix of organic and inorganic objects. A cooler protects historic containers with foodstuffs from microbial contaminants. The entire collection, catalogued according to standards developed by the National Park Service, was inventoried on computer.

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Beyond the Standard

Contact Points

New Life for an Old Fort

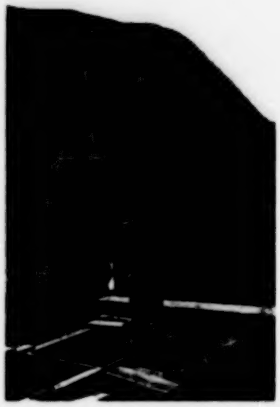
Contact Points

Seeking Answers in the Aleutians

International Team Studies Remote Island Cultures

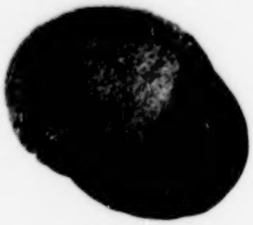
By Debbie Corbett

THE SERVICEMEN AND CONSTRUCTION WORKERS of Shemya Island in the western Aleutians are usually incredulous when they find out people once lived there. "Why?" they ask, and it's a fair question. The Aleutian Islands are legendary for their isolation, wind, and fog. For an ingenious and adaptive people, however, the islands were home. For thousands of years, the Aleut thrived on the sea's bounty, developing sophisticated customs and a unique technology—epitomized by superbly designed kayaks and warm, waterproof clothing—to accommodate life in a cold marine environment.



Archeologists have studied the Aleut past for over 100 years, but many questions remain. Two research projects at opposite ends of the island chain have begun to address some of the mysteries. The studies—which are building a picture of life thousands of years ago—seek to find out how this hunting and fishing culture transformed into the complex society encountered by the first Russian explorers in 1741.

ABOVE LEFT: Recording the first levels of an Aleut dwelling.
ABOVE RIGHT: Archeologist Christine Lefevre cleans around whale bones.
BELOW: Stone lamp.

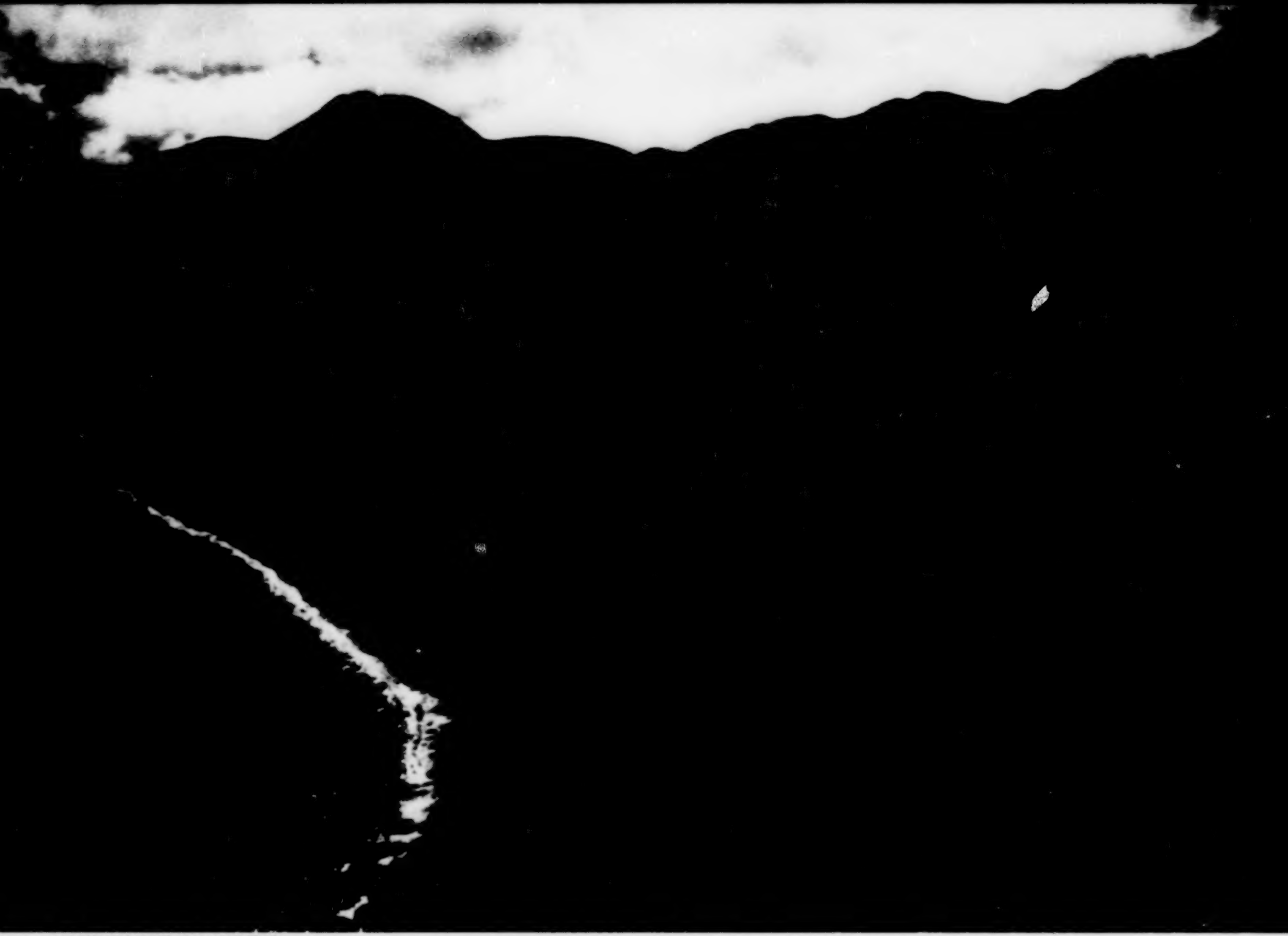


CONTACT POINT:
r7amnwr@mail.fws.gov

Most of the islands are part of the Alaska Maritime National Wildlife Refuge, established in 1913 and managed by the Fish & Wildlife Service. Studying the human history and environmental evolution of the islands is an important part of the agency's mandate to fully understand the resources under its care.

Both projects emphasize environmental history as a key to understanding changes in Aleut culture through time. The researchers have discovered that seemingly small fluctuations in the environment had larger consequences for the people of the Aleutians. For example, a minute change in sea water temperature had a disproportionate effect on the seabird population, on which the Aleuts depended for food and other resources. Earlier work by Russian scientists indicated that the occupation of the western Aleutians (about 3,500 years ago) coincides with a decrease in rainfall at about the same time. Fewer storms made it easier for people to make the westward journey over the sea.

At the western end of the chain, Fish & Wildlife has teamed up with researchers from the Russian Academy of Sciences, the Universities of Nebraska and Kansas, and the National Museum of Natural History in Paris. The researchers seek to understand the original colonization of the western islands, which were occupied much later than those in the east. The culture of the western chain—or Near Islanders—lacked many characteristics (masked dances, slaves, mummification) common to cultures of the eastern end. The team is studying the flow of these characteristics along the islands to analyze how isolation affected the development of the Near Islanders' unique culture.



ALL PHOTOS DEBBIE CORBETT/ FISH & WILDLIFE SERVICE

Top: Site on Buldir Island (mound in center), with archeologists' encampment.
Above: Soil screening station on Buldir Island.

On Buldir Island, where people from both ends of the chain mingled, an unusually well-preserved site is proving a crucial link in understanding the interaction between east and west. Originally thought to be a temporary hunting camp, the island actually was a large settlement with houses and burials. Archeologists have found evidence of woodworking and the harvesting of thousands of seabirds. Buldir may have served as a refuge for people fleeing resource shortages. When work begins on Attu Island in 1998, scholars will be looking for evidence of contact with Asia.

At the eastern end, on Unimak Island and the adjacent Alaska Peninsula, a team from the University of Wisconsin, with assistance from the Izembek National Wildlife Refuge, is investigating cultural complexity and the social organization of villages in late prehistoric times. One question researchers seek to answer is why scattered villages of independent families joined together under powerful leaders in large, consolidated settlements. The study is still in its early stages, but researchers are finding that, as on Buldir Island, social and environmental conditions were unexpectedly complex. Houses are being excavated to find out how the villagers organized themselves within the settlements. This work is providing the first picture of how Aleuts lived before Russian contact.

This project is receiving increasing attention from the villages of the eastern Aleutians. Researchers have presented their findings to school groups and Native Alaskans. Hopefully, the future will see local residents participating in field work. Also, students from the villages may be trained to care for the sites on their islands. The increasing community involvement emphasizes the interest Americans have in their rich cultural heritage.

Appendices

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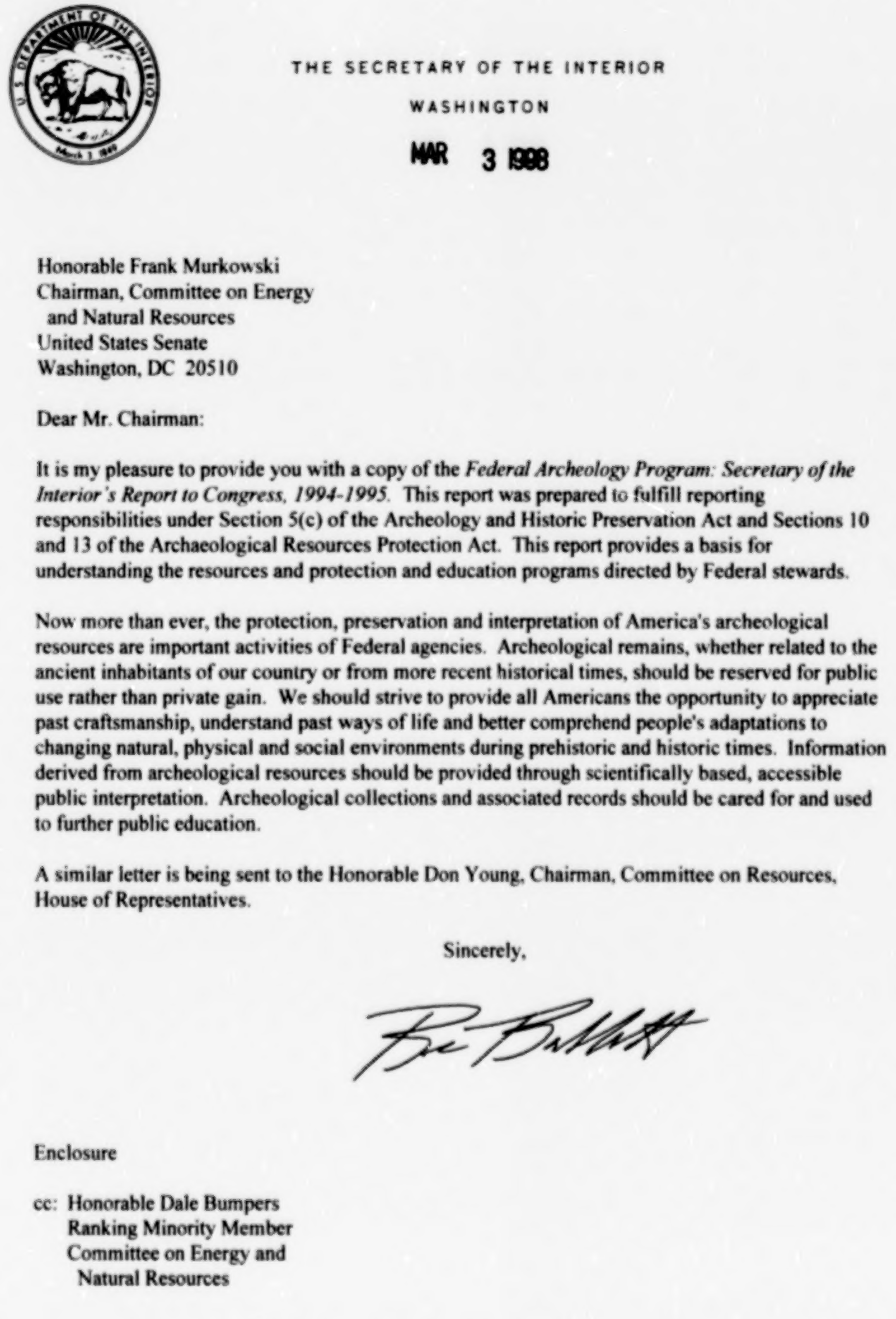
LEFT: Mug House Ruins, Mesa Verde National Park.

APPENDIX A Letters of Transmittal to the U.S. Senate and House of Representatives



March 3 1849

THE SECRETARY OF THE INTERIOR
WASHINGTON

MAR 3 1998

Honorable Frank Murkowski
Chairman, Committee on Energy
and Natural Resources
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

It is my pleasure to provide you with a copy of the *Federal Archeology Program: Secretary of the Interior's Report to Congress, 1994-1995.* This report was prepared to fulfill reporting responsibilities under Section 5(c) of the Archeology and Historic Preservation Act and Sections 10 and 13 of the Archaeological Resources Protection Act. This report provides a basis for understanding the resources and protection and education programs directed by Federal stewards.

Now more than ever, the protection, preservation and interpretation of America's archeological resources are important activities of Federal agencies. Archeological remains, whether related to the ancient inhabitants of our country or from more recent historical times, should be reserved for public use rather than private gain. We should strive to provide all Americans the opportunity to appreciate past craftsmanship, understand past ways of life and better comprehend people's adaptations to changing natural, physical and social environments during prehistoric and historic times. Information derived from archeological resources should be provided through scientifically based, accessible public interpretation. Archeological collections and associated records should be cared for and used to further public education.

A similar letter is being sent to the Honorable Don Young, Chairman, Committee on Resources, House of Representatives.

Sincerely,

Enclosure

cc: Honorable Dale Bumpers
Ranking Minority Member
Committee on Energy and
Natural Resources

THE SECRETARY OF THE INTERIOR
WASHINGTON

MAR 3 1998

Honorable Don Young
Chairman, Committee on Resources
House of Representatives
Washington, DC 20515

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A similar letter is being sent to the Honorable Frank Murkowski, Chairman, Committee on Energy and Natural Resources, United States Senate.

Sincerely,

Enclosure

cc: Honorable George Miller
Ranking Minority Member
Committee on Resources

APPENDIX B Agencies Participating in the Federal Archeology Program, FY 1994-95

Land Management Agencies

	Department of Agriculture
FS	Forest Service
	Department of Commerce
NOAA	National Oceanic and Atmospheric Administration
	Department of Defense
AF	Air Force
ANG	Air National Guard
DOA	Army
COE	Corps of Engineers
USMC	Marine Corps
USN	Navy
DOE	Department of Energy (Facilities)
	Department of the Interior
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
USBM	Bureau of Mines
BOR	Bureau of Reclamation
FWS	Fish and Wildlife Service
NPS	National Park Service
USGS	U.S. Geological Survey
	Department of Justice
BOP	Federal Bureau of Prisons
INS	Immigration and Naturalization Service
	Department of Transportation
FAA	Federal Aviation Administration
CG	U.S. Coast Guard
VA	Department of Veterans Affairs
NASA	National Aeronautics and Space Administration
TVA	Tennessee Valley Authority
USPS	U.S. Postal Service
SI	Smithsonian Institution

Development Agencies

	Department of Agriculture
FmHA	Farmers Home Administration
FSA	Farm Service Agency
RUS	Rural Utility Service
NRCS	Natural Resource Conservation Service
	Department of Commerce
EDA	Economic Development Administration
HHS	Department of Health and Human Services
HUD	Department of Housing and Urban Development
	Department of Transportation
FHA	Federal Highway Administration
FTA	Federal Transportation Administration
EPA	Environmental Protection Agency
GSA	General Services Administration

Regulatory Agencies

	Department of Energy
FERC	Federal Energy Regulatory Commission
	Department of the Interior
MMS	Minerals Management Service
OSM	Office of Surface Mining
NRC	Nuclear Regulatory Commission
	Department of Transportation
FRA	Federal Railroad Administration

APPENDIX C

The Questionnaire for the Secretary of the Interior's Report to Congress, FY 1994-95

The Secretary's Report to Congress on Federal archeology (SRC) provides agency-by-agency and government-wide summary data on archeological programs and projects. The report provides financial and other quantitative information, project highlights, discussions of key planning and policy issues, a description of known and projected U.S. archeological sites and associated artifacts and records, and an annual summary of program activities. The SRC is a broadly based source of information on the Federal archeology program. It is used by departments and agencies in evaluating their archeological activities, as well as by Congress, the archeological profession, the general cultural resource management and historic preservation communities, and the interested public.

The Secretary of the Interior is charged with providing guidance and coordination for Federal archeology and for preparing a report to Congress on Federal archeological activities. The National Historic Preservation Act (NHPA), as amended, authorizes the Secretary to guide and coordinate Federal historic preservation activities, including Federal archeological activities. The Secretary is required to report to Congress on various Federal archeological activities by Section 5(c) of the Archeological and Historic Preservation Act (AHPA) and by Sections 10(c) and 13 of the Archaeological Resources Protection Act (ARPA), as amended. ARPA Uniform Regulation § -.19 requires Federal land managers to provide archeology program information to the Secretary of the Interior, upon request of the Secretary, for this report. The report is accomplished for the Secretary by the Departmental Consulting Archeologist (DCA) with the support of the Archeological Assistance Program within the National Park Service.

This questionnaire is to be completed by all agencies with responsibilities in the Federal archeology program. The questionnaire responses are a critical element in the Secretary's report.

The questionnaire is intended to be used with only minor modifications through FY95. Each question refers to activities conducted in **FY95 (October 1, 1994 through September 30, 1995).**

Instructions for the FY95 Federal Archeology Program Questionnaire

The varying missions of U.S. Federal agencies influence the nature of archeological activities engaged in by each of them. For example, not all agencies issue archeological permits. All agencies that undertake, contract for, or require of other parties archeological investigations should respond to questions in Sections A through H. Regulatory and developmental agencies who issue permits and licenses for projects are included in this category. Sections I-K apply only to agencies that also manage Federal or Indian land. It is understood that precise data are not always available and that in some cases knowledgeable estimates must be made.

Federal agencies that do not own and manage large acreages may provide funding for development on Federal and Indian lands or may regulate activities on Federal or Indian land. These regulatory agencies often issue permits or licenses for projects that cross Federal and Indian lands managed by other Federal agencies. The term "land use applicant" used throughout this questionnaire always refers to non-Federal entities who are conducting archeological activities in response to permit or financial support requirements. Thus, a regulatory agency should not consider itself a "land use applicant" when responding to these questions.

Note that these questions specifically apply to archeological investigation, protection, management, recovery, and collections management activities carried out under Federal authority, and do not pertain to all cultural resource management activities. In the event that a department/agency takes the position that the entire questionnaire is not applicable, return the uncompleted questionnaire with a cover letter of explanation.

Table D5. Identified archeological sites by development agency, FY 1994-1995.

Agency	Year	Sites Found During Year	Total Known Sites
EDA	1994	28	NA
EPA	1994	92	NA
FHA	1994	ND	NA
FmHA	1994	1175	NA
FTA	1994	NA	NA
GSA	1994	78	NA
HHS	1994	391	1
HUD	1994	ND	NA
NRCS	1994	826	ND

In completing the questionnaire, use the attached Answer Sheet. Fill out each line of the Answer Sheet with numerical data called for, or with the following abbreviations **ONLY**:

NA (Not Applicable). This term should only be used to indicate that the agency has no responsibility for this activity. If a section or a question has subsections/questions, fill in each line with *NA*.

ND (No Data to Report). This term should be used to indicate that although the question applies, there are no data to report. If data are not available for some other reason, use *ND* instead of a quantitative answer and indicate the reason(s) in the narrative response request for the relevant section.

0 (Zero/Nothing). This response should only be used to indicate the known absence of a quantity. Zero should not be used to indicate a lack of data.

Dollar Amounts ($): Round all dollar amounts to the nearest thousand, and specify if amounts are gross estimates.

Narrative Responses: Provide answers to the narrative questions on disk (WordPerfect 5.1 disk). Respond on the Answer Sheet for all narrative questions with either a *NA*, *ND*, or check if a narrative is attached. Responses to the narrative questions are an excellent source of information and have added greatly to the content of past reports. Among the narrative questions, **Agency Highlights** provides an opportunity for agencies to highlight their archeological activities. Topics discussed might include specific archeological surveys and excavations; public awareness activities (publications, reports, brochures, exhibits, lectures, films, videos, awards, education programs, site protection programs, etc.); interagency, intergovernmental, and international cooperation; or any other activities that reflect participation in Federal archeological activities.

Department and Agency Names and Abbreviations: The first time any department or agency name is used in a narrative response, spell it out followed by the abbreviation (e.g., *Bureau of Land Management (BLM)*), using only the abbreviation in subsequent references.

Submission Format

Provide a composite agency response to the questionnaire on the Answer Sheet, summarizing information collected from regions, districts, divisions, etc. Narrative responses can be submitted by separate regional, state, division, etc. office. Please compile narrative responses on disk (WordPerfect 5.1 disk), if at all possible.

Additional Information and Material Requested

LOOT Clearinghouse Data: Complete the attached LOOT form (OMB No.1024-0111) for each archeological resource prosecution and citation reported within your agency in FY 95.

Photographs: Please submit black and white photographs (at least 5" x 7") depicting Federal archeological activities. Although black and white photographs are preferred, color photographs or slides will be accepted. On the back of each photograph print the appropriate caption (identify people by name and position) and photographic credit line.

Due Dates and Assistance

The headquarters office of each agency should return the composite, answer sheet and narrative sheets, completed LOOT form(s), photographs, and any other supplemental material to the Departmental Consulting Archeologist, P.O. Box 37127, Washington, DC 20013-7127 [delivery address: 800 N. Capitol St. N.W., Suite 210, Washington, DC 20002], by **March 29, 1996**. Questions about this questionnaire should be directed to Daniel Haas, USDI-NPS-National Center for Cultural Resource Stewardship and Partnership, Archeology and Ethnography Program, at 202-343-1058, Fax: 202-523-1547; E-mail: dan_haas@nps.gov.

Attachments: Answer Sheet, LOOT Form

Section A. Agency Archeology Program FY95 Highlights

A1 (separate sheet). Provide highlights of outstanding archeological projects and programs that could be included in the FY95 report. Topics discussed might include specific archeological surveys; data recovery projects; public education and outreach activities; archeological collections management, curation, or conservation efforts; interagency, intergovernmental, and international cooperation; or other relevant activities.

Section B. Archeological Public Education and Outreach

This section provides narrative information on agency programs and accomplishments in the area of public education and awareness regarding issues of concern to the Federal archeology program, during FY95.

B1 (separate sheet). Does the agency have archeological public education and outreach programs planned or underway? If so, describe these plans or programs.

B2 (separate sheet; this question is asked in response to ARPA Section 11 requirements). Describe communication, cooperation,and exchange between agency and private individuals having archeological resources and data collected from Federal and Indian lands, and with professional archeologists outside of the agency. Identify when those activities involve archeological, historic, or other scientific associations.

Section C. Archeological Overview and Planning Studies

This section provides data on overview and planning studies undertaken by the agency or agency contractors, or by land use applicants/permittees/licensees and others, during FY95.

__________ C1. Number of overviews or literature/map searches associated with general planning activities and resulting in a file letter, report, or other documentation conducted by the agency itself, or conducted for the agency by contractors and cooperators and supported with agency funds.

$__________ C2. Amount expended by agency for the studies counted in response C1 **(include salary and benefits, support, and other costs)**

__________ C3. Number of overviews or literature/map searches conducted by land use applicants/permittees/licensees and not supported with agency funds

C4 (separate sheet). Provide analysis, interpretation, and clarification of responses to the archeological overview and planning studies questions.

Section D. Archeological Identification and Evaluation Investigations

This section provides data on identification and evaluation studies undertaken by the agency or agency contractors, or by land use applicants/permittees/licensees, during FY95.

__________D1. Number of field studies to identify and evaluate archeological properties conducted by the agency itself, or conducted for the agency by contractors and cooperators and supported with agency funds.

$__________D2. Amount expended by agency for archeological identification and evaluation studies **(include salary and benefits, support, and other costs)**

__________D3. Number of field studies to identify and evaluate archeological properties conducted by land use applicants/permittees/licensees and not supported with agency funds

__________D4. Number of acres by archeological identification and evaluation investigations

__________D5. Total number of archeological sites identified by identification and evaluation studies

D6 (separate sheet). Provide analysis, interpretation, and clarification of responses to questions about archeological identification and evaluation studies.

Section E. Archeological Data Recovery

This section provides information on archeological data recovery projects undertaken by the agency or agency contractors, or by land use applicants/permittees/licensees, during FY95.

__________E1. Number of archeological data recovery projects conducted by the agency itself, or conducted for the agency by contractors and cooperators and supported with agency funds.

$__________E2. Amount expended by agency for all archeological data recovery projects **(include salary and benefits, support, and other costs)**

__________E3. Number of archeological data recovery projects conducted by land use applicants/permittees/licensees and not supported with agency funds

E4 (separate sheet). Provide analysis, interpretation and clarification of responses to questions about archeological data recovery projects.

Section F. Unanticipated Archeological Discoveries

This section provides data on archeological properties discovered unexpectedly in FY95 subsequent to agency completion of the NHPA Section 106 review and compliance process.

__________F1. Number of undertakings resulting in the discovery of unanticipated archeological resources including those undertakings conducted by the agency itself, or conducted for the agency by contractors and cooperators and supported with agency funds.

$__________F2. Amount expended by agency for unanticipated discoveries **(include salary and benefits, support, and other costs)**

__________F3. Number of unanticipated discoveries encountered by land use applicants/ grantees/licensees on projects not supported with agency funds

__________F4. Number of unanticipated discovery situations in which the archeological resources were judged important enough for data collection to be conducted or for changes to be made in the undertaking design to avoid the discovered resources (**include discoveries made by agency, contractor or cooperator working for agency and land use applicants/permittees/grantees/;this number should be less than or possibly equal to the sum of the responses to questions F1 and F3 [if not, explain below in response F5]**

F5 (separate sheet). Provide analysis, interpretation and clarification of responses to questions about unanticipated archeological discoveries.

Section G. Archeological Information Management

This section summarizes information management systems used by the agency for data on archeological permits, site locations, collections, violations, and other archeological topics. If a single larger system is used for two or more of the areas covered by questions G1-G3, then those questions may be answered by a single response. If this is done, make an explicit note of the fact on the answer sheet. Also, if appropriate, note and summarize the other kinds of information included in a system used for any of the three areas.

G1 (separate sheet). Describe any computerized systems not reported in previous years that the agency is currently using to record and monitor ARPA, Antiquities Act, and/or other permits for archeological investigations and note the ongoing use of previously reported systems. Note the hardware and software used for any systems mentioned.

G2 (separate sheet). Describe any computerized systems not reported in previous years that the agency is using to record and monitor archeological site locations for inventory purposes and note the ongoing use of previously reported systems. Note the hardware and software used for any systems mentioned.

G3 (separate sheet). Describe any computerized systems not reported in previous years that the agency is using to record and monitor archeological collections for management purposes and note the ongoing use of previously reported systems. Note the hardware and software used for any systems mentioned.

Section H. Archeological Collections Management

This section covers Federal collections management activities undertaken by or for the agency in FY95 as required by 36 CFR 79, the purpose of which is to preserve collections of prehistoric and historic material remains, and associated records recovered under the Antiquities Act, AHPA, NHPA, or ARPA.

__________H1. Cubic feet (or lots if appropriate; **explain dimension used here in response H6**) of stored material remains (artifacts, samples)

________% H2. Percentage of amount (cubic feet, lots) identified in response H1 that has been catalogued

__________H3. Number of linear feet of records associated with stored archeological material remains

__________H4. Estimated number of cubic feet/lots added to collections in FY95

H5 (separate sheet). Describe in brief overview how the agency is meeting or plans to meet its curation responsibilities under 36 CFR 79. Identify and briefly describe the curation facilities relied on by the agency in meeting its responsibilities. Also describe cataloging systems (e.g., file cards, electronic records) used in each such facility.

H6 (separate sheet). Provide analysis, interpretation and clarification of the responses to the questions about archeological collections management.

THE REMAINDER OF THE QUESTIONNAIRE (Sections I-K) IS TO BE COMPLETED BY AGENCIES THAT MANAGE FEDERAL OR INDIAN LAND.

Section I. Archeological Resource Base on Federal and Indian Lands

This section provides baseline information about the extent of archeological resources within the lands managed by Federal agencies, and the quality of knowledge about those resources. Questions I2-I9 call for the best possible estimates for cumulative activities **through FY95**; some of these responses may be the same as those provided for the previous year.

__________I1. Total acres managed **(in response I10 below, briefly describe the ownership status and use rights that apply for this acreage, and identify the source of information on the acreage amount with publication citation if appropriate)**

__________I2. Total acres inventoried sufficiently to identify all readily apparent archeological properties present there **(i.e., land investigated at an appropriate level of intensity to eliminate the need for further systematic inventory given current standards)**

__________I3. Total acres inventoried by less than full coverage **(i.e., land investigated archeologically but not intensively enough to ensure 100% inventory of archeological sites)**

__________I4. Total number of known archeological properties on agency-managed land

Any one archeological property should be counted only once in responding to question set I5-I9.

__________I5. Total number of archeological properties on agency-managed lands listed on the National Register of Historic Places (NRHP)

__________I6. Total number of archeological properties on agency-managed land formally determined eligible for the NRHP or considered eligible through documented consultation with the State Historic Preservation Officer (SHPO)

__________I7. Total number of archeological properties on agency-managed land formally determined ineligible for the NRHP or through documented consultation with the SHPO

__________I8. Total number of known archeological properties on agency-managed land adequately evaluated, but not listed, considered, or formally determined eligible for the NRHP **(i.e., fitting responses to neither questions I5-I7)**

__________I9. Total number of known archeological properties on agency-managed land not NRHP-evaluated.

I10 (separate sheet). Provide analysis, interpretation and clarification of responses to questions about the Federal and Indian land archeological resource base, including the basis for estimating responses.

I11 (separate sheet). Are actions underway or planned to comply with ARPA Sec. 14? This requires Federal agencies to develop plans for surveying lands under their control to determine the nature and extent of their archeological resources, and to prepare a schedule for surveying lands that are likely to contain the most scientifically valuable archeological resources. If the answer is yes, describe these actions and/or plans.

Section J. Archeological Permitting

This section summarizes the number of archeological permits or the frequency of the use of ARPA Uniform Regulations §-.5(b,c) authority for archeological activities undertaken on Federal and Indian lands using various legal authorities during FY95.

Explain any inconsistencies that may occur in your numerical responses to question J1-J8 (e.g., more permits denied [J5] than permit applications received [J4]), in response J9.

__________J1. Number of archeological investigation permits issued or in effect pursuant to Federal agency policies, procedures, or guidelines for archeological activities authorized by ARPA, the Antiquities Act, or agency-specific statutes

__________J2. Number of permittees checked in the field, laboratory, or at their curation repository

__________J3. Total number of investigations begun or underway, conducted by the agency or under agreement for which no formal permits were issued, but which otherwise complied with ARPA conditions and standards as authorized by ARPA Uniform Regulations § -.5(b,c)

__________J4. Number of permit applications received

__________J5. Number of permit applications denied

__________J6. Number of permits suspended

__________J7. Number of denied or suspended permits appealed

__________J8. Number of notifications to Indian Tribes of proposed work that might harm or destroy sites having religious or cultural importance to a Tribe, as required by ARPA Uniform Regulation § -.7 **(in response J9, provide a brief description of any consultation and cooperation that may have developed as a consequence of such notifications)**.

J9 (separate sheet). Provide analysis, interpretation and clarification of responses to questions about archeological permitting activities.

Section K. Archeological Law Enforcement

This section summarizes FY95 violations, citations, arrests, prosecutions, and convictions under various Federal authorities that afford civil and criminal protection of archeological properties. **Use the attached LOOT form for reporting FY95 archeological resource prosecutions and citations**.

__________K1. Total number of documented violations (regardless of whether or not these resulted in a prosecution or citation) of ARPA, the Antiquities Act, Federal property laws, or other statutes protecting archeological properties, reported on land managed by the agency **(as defined in ARPA Sec. 6, a violation is any actual or attempted excavation, removal, damage to, alteration, or defacement of an archeological property on Federal land without a permit issued or an exemption listed in ARPA Sec. 4)**

__________K2. Total number of arrests

__________K3. Total number of citations **(for every citation, attach a completed LOOT form)**

__________K4. Total number of prosecutions **(for every prosecution, attach a completed LOOT form)**

__________K5. Number of misdemeanor convictions under ARPA only

__________K6. Number of felony convictions under ARPA only

__________K7. Number of second or subsequent ARPA convictions **(included in answers to questions K5 and K6)**

__________K8. Number of convictions (including contested citations) that were prosecuted using an authority other than ARPA **(in response to narrative question K18 below, list specific authority and cases in which each authority was used)**

$_________K9. Total amount collected in criminal fines under ARPA only

_________K10. Number of administrative, civil assessments using an authority other than ARPA

$________K11. Total amount of civil penalty assessments collected under ARPA only

$________K12. Costs of restoring or repairing looted or vandalized archeological resources

$_______K13. Total amount given in rewards pursuant to ARPA only

$_______K14. Commercial value of archeological resources seized and retained by the government under ARPA only

$_______K15. Commercial value of property forfeited in ARPA convictions only

$_______K16. Estimated cost of agency archeological law enforcement.

K17 (separate sheet). Provide analysis, interpretation and clarification of responses to questions about archeological law enforcement, including details of the response to question K8.

K18 (separate sheet). Are any actions planned or underway (1) to develop documents for reporting suspected ARPA violations, and/or (2) establishing procedures concerning when and how these documents are to be completed by officers, employees, and agents of their respective agencies? If so, describe.

K19 (separate sheet). Describe effective cooperative projects, methods, and/or techniques the agency has used to improve archeological preservation through law enforcement. Examples might include the use of remote sensing equipment for monitoring site locations, or interagency cooperative agreements for combined surveillance of adjacent land units and concurrent jurisdiction of law enforcement personnel.

APPENDIX D

Agency Responses to the Questionnaire for the Secretary of the Interior's Report to Congress, FY 1994-95

Tables D.1 through D.23 contain the numerical responses from Federal agencies for FY 1994-1995 used in the analyses provided in this report. Agency data are grouped and presented by land management, development and regulatory agencies. Data for Sections I-K of the questionnaire (See Appendix B) do not apply to regulatory agencies and are not tabulated. Data regarding archeological resource crimes (D.21 - D.23) are grouped for all agencies. The database with all responses is maintained by the Archeology and Ethnography program, National Park Service, Washington, D.C. Information is available on request.

Table D1. Acreage managed and inventoried by land management agency, FY 1994-1995.

Agency	Year	Acres Managed	Acres Surveyed During Year	Acres Fully Surveyed	Acres Partly Surveyed
AF	1994	9432932	256423	823485	112733
ANG	1994	112000	0	20000	30000
BIA	1994	54000000	177457	2021227	150000
BLM	1994	270000000	574785	11172682	ND
BOP	1994	30617	575	2890	1200
BOR	1994	6479159	85650	648824	132522
CG	1994	76349*	ND	ND	ND
COE	1994	7100000	213046	1700000	1800000
DOA	1994	12000000	464492	992349	1977987
DOE	1994	2112450	56906	173799	93490
FAA	1994	26820	9	ND	ND
FS	1994	106491495	1597819	17548789	10917549
FWS	1994	92000000	4098	1500000	2000000
INS	1994	1647*	15	NA	NA
NASA	1994	398791	131	102140	7000
NOAA	1994	9087232*	ND	NA	NA
NPS	1994	83302982	58526	1487255	5984964
SI	1994	NA	NA	NA	NA
TVA	1994	1033000	7000	8900	245000
USBM	1994	11834	ND	600	400
USGS	1994	872*	0	NA	NA
USMC	1994	1741000	12150	113791	187500
USN	1994	5741000	ND	250000	2000000
USPS	1994	13535*	ND	NA	NA
VA	1994	25303	ND	ND	ND
Total		661219018	3509082	38566731	25640345
AF	1995	8961753	176063	1045489	97470
ANG	1995	112000	ND	ND	ND
BIA	1995	54000000	177457	2021227	150000
BLM	1995	270000000	556918	11649373	ND
BOP	1995	34651	892	3782	1200
BOR	1995	4504159	39671	532749	122212
CG	1995	76349*	80	ND	ND
COE	1995	7700000	1009000	2300000	3300000
DOA	1995	12000000	ND	2558267	1977987
DOE	1995	2383009	63490	231489	528860
FAA	1995	26820	12790	813	5708
FS	1995	185708913	1314349	21861606	15852866
FWS	1995	92348847	57163	1500000	2000000
INS	1995	1647*	0	NA	NA
NASA	1995	398791	0	102140	7000
NOAA	1995	9087232*	ND	0	ND
NPS	1995	83302982	55449	1517217	5985712
SI	1995	NA	NA	NA	NA
TVA	1995	994000	11000	9200	253000
USGS	1995	872*	ND	NA	NA
USMC	1995	1741000	ND	ND	ND
USN	1995	5741000	ND	250000	2000000
USPS	1995	13535*	0	NA	NA
VA	1995	25303	100	ND	ND
Total		847162863	3474422	45583352	30304028
Grand Total		-	6983504	-	-

* Acreage data obtained from GSA (1994)

Table D2. Acreage managed and inventoried by development agency, FY 1994-1995.

Agency	Year	Acres Managed	Acres Surveyed During Year	Acres Fully Surveyed	Acres Partly Surveyed
EDA	1994	NA	16235	NA	NA
EPA	1994	330*	954	NA	NA
FHA	1994	46*	ND	NA	NA
FmHA	1994	NA	46000	NA	NA
FTA	1994	NA	NA	NA	NA
GSA	1994	10898*	300	NA	NA
HHS	1994	1388	8238	617	92
HUD	1994	NA	ND	NA	NA
NRCS	1994	5715*	126000	ND	ND
RUS	1994	NA	4639	NA	NA
Total		18377	202366	617	92
EDA	1995	NA	2922	NA	NA
EPA	1995	330*	1578	NA	NA
FHA	1995	46*	ND	NA	NA
FSA	1995	NA	25268	NA	NA
FTA	1995	NA	ND	NA	NA
GSA	1995	10898	157	NA	NA
HHS	1995	1548	7625	777	92
HUD	1995	NA	ND	NA	NA
NRCS	1995	5715	60060	ND	ND
RUS	1995	NA	4747	NA	NA
Total		18537	102357	777	92
Grand Total		-	304723	-	-

* Acreage data obtained from GSA (1994)

Table D3. Acreage inventoried and identified archeological sites by regulatory agency, FY 1994-1995.

Agency	Year	Acres Surveyed During Year	Sites Found During Year	Total Known Sites
FERC	1994	38274	1982	NA
FRA	1994	ND	ND	NA
MMS	1994	3579480	0	NA
NRC	1994	NA	0	NA
OSM	1994	NA	ND	NA
Total		3617754	1982	0
FERC	1995	8428	352	NA
FRA	1995	0	0	NA
MMS	1995	3299490	0	NA
NRC	1995	0	0	NA
OSM	1995	ND	ND	NA
Total		3307918	352	0
Grand Total		6925672	2334	0

Table D4. Identified archeological sites by land management agency, FY 1994-1995.

Agency	Year	Sites Found During Year	Total Known Sites
AF	1994	1749	6681
ANG	1994	0	1
BIA	1994	4654	63678
BLM	1994	8468	187028
BOP	1994	11	160
BOR	1994	1381	12251
CG	1994	ND	ND
COE	1994	3613	47021
DOA	1994	14895	36000
DOE	1994	626	4920
FAA	1994	0	ND
FS	1994	6602	459912
FWS	1994	286	9285
INS	1994	1	NA
NASA	1994	11	247
NOAA	1994	7	NA
NPS	1994	1747	68372
SI	1994	1	NA
TVA	1994	475	ND
USBM	1994	ND	29
USGS	1994	0	NA
USMC	1994	196	868
USN	1994	405	ND
USPS	1994	ND	NA
VA	1994	ND	28
Total		45128	896481
AF	1995	1705	8204
ANG	1995	ND	ND
BIA	1995	4654	63678
BLM	1995	8866	194417
BOP	1995	30	190
BOR	1995	849	9857
CG	1995	1	2
COE	1995	3126	55978
DOA	1995	ND	36000
DOE	1995	894	7720
FAA	1995	57	4
FS	1995	12969	253918
FWS	1995	115	9439
INS	1995	0	NA
NASA	1995	0	248
NOAA	1995	2	ND
NPS	1995	1381	67769
SI	1995	NA	NA
TVA	1995	268	ND
USGS	1995	ND	NA
USMC	1995	ND	ND
USN	1995	ND	ND
USPS	1995	0	NA
VA	1995	4	28
Total		34921	707452
Grand Total		80049	-

Table D5. Identified archeological sites by development agency, FY 1994-1995.

Agency	Year	Sites Found During Year	Total Known Sites
EDA	1994	28	NA
EPA	1994	92	NA
FHA	1994	ND	NA
FmHA	1994	1175	NA
FTA	1994	NA	NA
GSA	1994	78	NA
HHS	1994	391	1
HUD	1994	ND	NA
NRCS	1994	826	ND
RUS	1994	420	NA
Total		3010	1
EDA	1995	38	NA
EPA	1995	39	NA
FHA	1995	ND	NA
FSA	1995	63	NA
FTA	1995	ND	NA
GSA	1995	10	NA
HHS	1995	365	1
HUD	1995	ND	NA
NRCS	1995	746	ND
RUS	1995	207	NA
Total		1468	1
Grand Total		4478	-

Table D6. NRHP status of archeological sites by land management agency, FY 1994-1995.

Agency	Year	NRHP-Listed Sites	Eligible Sites	Sites Evaluated-Not Listed	Sites Not Eligible
AF	1994	154	503	815	1635
ANG	1994	1	0	0	22
BIA	1994	82	1307	2301	629
BLM	1994	3274	24014	ND	23607
BOP	1994	ND	2	110	17
BOR	1994	49	1610	695	380
CG	1994	ND	ND	ND	ND
COE	1994	636	5025	6149	7123
DOA	1994	26	521	1345	4688
DOE	1994	51	290	1394	1034
FAA	1994	ND	ND	ND	ND
FS	1994	1417	24508	298	14132
FWS	1994	200	354	580	721
INS	1994	NA	NA	NA	NA
NASA	1994	12	32	123	24
NOAA	1994	NA	NA	NA	NA
NPS	1994	17927	2733	5902	272
SI	1994	NA	NA	NA	NA
TVA	1994	4	9	ND	ND
USBM	1994	0	0	29	0
USGS	1994	NA	NA	NA	NA
USMC	1994	4	68	231	166
USN	1994	ND	ND	ND	ND
USPS	1994	NA	NA	NA	NA
VA	1994	8	10	10	ND
Total		23845	60986	19982	54450
AF	1995	14	544	549	2200
ANG	1995	ND	ND	ND	ND
BIA	1995	82	1307	2301	629
BLM	1995	3278	27294	ND	26209
BOP	1995	ND	3	110	34
BOR	1995	29	1306	695	380
CG	1995	1	ND	1	ND
COE	1995	884	4400	5826	9651
DOA	1995	178	3376	ND	ND
DOE	1995	55	608	2229	1164
FAA	1995	0	1	2	2
FS	1995	869	33036	3611	26978
FWS	1995	108	366	613	759
INS	1995	NA	NA	NA	NA
NASA	1995	12	33	123	24
NOAA	1995	ND	ND	ND	ND
NPS	1995	18544	2713	5911	250
SI	1995	NA	NA	NA	NA
TVA	1995	4	11	ND	ND
USGS	1995	NA	NA	NA	NA
USMC	1995	ND	ND	ND	ND
USN	1995	ND	ND	ND	ND
USPS	1995	NA	NA	NA	NA
VA	1995	8	10	10	ND
Total		24066	75008	21981	68280

Table D7. NRHP status of archeological sites by development agency, FY 1994-1995.

Agency	Year	NRHP-Listed Sites	Eligible Sites	Sites Evaluated-Not Listed	Sites Not Eligible
EDA	1994	NA	NA	NA	NA
EPA	1994	NA	NA	NA	NA
FHA	1994	NA	NA	NA	NA
FmHA	1994	NA	NA	NA	NA
FTA	1994	NA	NA	NA	NA
GSA	1994	NA	NA	NA	NA
HHS	1994	1	1	0	0
HUD	1994	NA	NA	NA	NA
NRCS	1994	ND	ND	ND	ND
RUS	1994	NA	NA	NA	NA
Total		1	1	0	0
EDA	1995	NA	NA	NA	NA
EPA	1995	NA	NA	NA	NA
FHA	1995	NA	NA	NA	NA
FSA	1995	NA	NA	NA	NA
FTA	1995	NA	NA	NA	NA
GSA	1995	1	NA	ND	1
HHS	1995	1	1	29	1
HUD	1995	NA	NA	NA	NA
NRCS	1995	ND	ND	ND	ND
RUS	1995	NA	NA	NA	NA
Total		2	1	29	2

Table D8. Permitted or authorized archeological investigations and tribal notifications by land management agency, FY 1994-1995.

Agency	Year	Permits Issued & In Effect	Applications Received	No Formal Permit	Notification of Tribe
AF	1994	2	2	94	28
ANG	1994	0	0	0	0
BIA	1994	93	111	41	152
BLM	1994	542	370	2738	347
BOP	1994	0	0	0	0
BOR	1994	24	24	24	7
CG	1994	ND	ND	ND	ND
COE	1994	23	13	64	14
DOA	1994	5	1	40	4
DOE	1994	9	9	52	11
FAA	1994	ND	ND	ND	ND
FS	1994	417	155	91	148
FWS	1994	17	11	36	6
INS	1994	NA	NA	NA	NA
NASA	1994	0	0	0	0
NOAA	1994	5	5	0	NA
NPS	1994	24	21	90	8
SI	1994	NA	NA	NA	NA
TVA	1994	2	2	0	2
USBM	1994	0	0	0	0
USGS	1994	NA	NA	NA	NA
USMC	1994	1	1	0	0
USN	1994	1	1	4	1
USPS	1994	NA	NA	NA	NA
VA	1994	1	1	ND	ND
Total		1166	727	3274	728
AF	1995	2	2	109	17
ANG	1995	ND	ND	ND	ND
BIA	1995	93	111	41	152
BLM	1995	515	301	2742	461
BOP	1995	0	0	0	0
BOR	1995	18	20	60	7
CG	1995	ND	ND	ND	ND
COE	1995	25	20	101	23
DOA	1995	ND	ND	ND	62
DOE	1995	2	2	62	19
FAA	1995	0	0	0	0
FS	1995	7811	159	51	312
FWS	1995	26	26	150	8
INS	1995	NA	NA	NA	NA
NASA	1995	0	0	0	0
NOAA	1995	5	7	1	0
NPS	1995	20	17	52	2
SI	1995	NA	NA	NA	NA
TVA	1995	3	3	0	1
USGS	1995	NA	NA	NA	NA
USMC	1995	ND	ND	ND	ND
USN	1995	3	3	ND	3
USPS	1995	NA	NA	NA	NA
VA	1995	1	1	ND	ND
Total		8524	672	3369	1067
Grand Total		-	1399	6643	1795

Table D9. Overview, identification and evaluation projects by land management agency, FY 1994-1995.

Agency	Year	Agency-Funded Overview Studies	Other Overview Studies	Agency-Funded Identification & Evaluation	Other Identification & Evaluation
AF	1994	526	21	355	24
ANG	1994	10	0	0	0
BIA	1994	1633	775	859	852
BLM	1994	4942	4275	2738	4916
BOP	1994	4	0	3	0
BOR	1994	357	83	210	43
CG	1994	ND	ND	ND	ND
COE	1994	2296	754	449	544
DOA	1994	1677	10	272	9
DOE	1994	942	9	177	11
FAA	1994	27	29	17	1
FS	1994	1416	9	4812	217
FWS	1994	656	8	161	26
INS	1994	0	0	1	0
NASA	1994	123	ND	2	ND
NOAA	1994	1	NA	1	NA
NPS	1994	309	1	226	5
SI	1994	1	NA	1	0
TVA	1994	1000	2	66	2
USBM	1994	0	0	ND	ND
USGS	1994	0	NA	0	NA
USMC	1994	2	0	10	0
USN	1994	12	0	28	ND
USPS	1994	ND	ND	ND	ND
VA	1994	1	ND	1	ND
Total		15935	5976	10389	6650
AF	1995	585	33	427	32
ANG	1995	ND	ND	ND	ND
BIA	1995	1633	775	859	852
BLM	1995	4886	4228	2742	4468
BOP	1995	5	0	5	0
BOR	1995	138	82	95	81
CG	1995	4	1	2	1
COE	1995	2173	1069	546	448
DOA	1995	ND	ND	ND	ND
DOE	1995	1775	0	240	0
FAA	1995	33	0	4	0
FS	1995	2860	132	9799	456
FWS	1995	640	31	111	52
INS	1995	0	0	0	0
NASA	1995	100	0	1	0
NOAA	1995	1	3	1	1
NPS	1995	326	7	262	37
SI	1995	NA	NA	NA	NA
TVA	1995	1100	3	24	3
USGS	1995	0	NA	3	0
USMC	1995	ND	ND	ND	ND
USN	1995	88	4	38	19
USPS	1995	0	0	0	0
VA	1995	ND	ND	1	ND
Total		16347	6368	15160	6450
Grand Total		32282	12344	25549	13100

Table D10. Overview, identification and evaluation projects by development agency, FY 1994-1995.

Agency	Year	Agency-Funded Overview Studies	Other Overview Studies	Agency-Funded Identification & Evaluation	Other Identification & Evaluation
EDA	1994	NA	NA	16	12
EPA	1994	18	33	27	30
FHA	1994	ND	ND	ND	ND
FmHA	1994	7000	1000	700	300
FTA	1994	NA	NA	NA	NA
GSA	1994	19	0	10	0
HHS	1994	218	0	124	14
HUD	1994	ND	ND	ND	ND
NRCS	1994	496	ND	375	ND
RUS	1994	1122	NA	0	82
Total		8873	1033	1252	438
EDA	1995	NA	NA	35	3
EPA	1995	39	351	27	300
FHA	1995	ND	ND	ND	ND
FSA	1995	1090	ND	100	ND
FTA	1995	ND	ND	ND	ND
GSA	1995	35	3	12	3
HHS	1995	82	0	144	21
HUD	1995	ND	ND	ND	ND
NRCS	1995	2588	ND	2450	ND
RUS	1995	1054	NA	0	65
Total		4888	354	2768	392
Grand Total		13761	1387	4020	830

Table D11. Overview, identification and evaluation projects by regulatory agency, FY 1994-1995.

Agency	Year	Agency-Funded Overview Studies	Other Overview Studies	Agency-Funded Identification & Evaluation	Other Identification & Evaluation
FERC	1994	NA	127	NA	62
FRA	1994	ND	ND	ND	ND
MMS	1994	2	0	3	652
NRC	1994	0	0	0	0
OSM	1994	ND	ND	ND	ND
Total		2	127	3	714
FERC	1995	NA	106	NA	59
FRA	1995	0	0	0	0
MMS	1995	9	0	2	601
NRC	1995	0	0	0	0
OSM	1995	ND	ND	ND	ND
Total		9	106	2	660
Grand Total		11	233	5	1374

Table D12. Data recovery projects by land management agency, FY 1994-1995.

Agency	Year	Agency-funded Data Recovery Projects	Other Data Recovery Projects
AF	1994	127	20
ANG	1994	0	0
BIA	1994	9	20
BLM	1994	148	111
BOP	1994	0	0
BOR	1994	17	0
CG	1994	ND	ND
COE	1994	45	34
DOA	1994	21	2
DOE	1994	14	1
FAA	1994	2	0
FS	1994	79	17
FWS	1994	17	ND
INS	1994	0	0
NASA	1994	0	ND
NOAA	1994	ND	ND
NPS	1994	31	2
SI	1994	1	0
TVA	1994	0	0
USBM	1994	NA	NA
USGS	1994	0	NA
USMC	1994	0	0
USN	1994	4	1
USPS	1994	ND	NA
VA	1994	ND	ND
Total		515	208
AF	1995	9	0
ANG	1995	ND	ND
BIA	1995	9	20
BLM	1995	269	384
BOP	1995	0	0
BOR	1995	9	1
CG	1995	ND	ND
COE	1995	36	49
DOA	1995	ND	ND
DOE	1995	10	0
FAA	1995	0	0
FS	1995	184	31
FWS	1995	7	4
INS	1995	0	0
NASA	1995	0	0
NOAA	1995	1	0
NPS	1995	11	1
SI	1995	NA	NA
TVA	1995	0	0
USGS	1995	0	0
USMC	1995	ND	ND
USN	1995	5	5
USPS	1995	0	0
VA	1995	ND	ND
Total		550	495
Grand Total		1065	703

Table D13. Data recovery projects by development agency, FY 1994-1995.

Agency	Year	Agency-funded Data Recovery Projects	Other Data Recovery Projects
EDA	1994	NA	NA
EPA	1994	4	7
FHA	1994	ND	ND
FmHA	1994	5	18
FTA	1994	NA	NA
GSA	1994	6	0
HHS	1994	3	1
HUD	1994	ND	ND
NRCS	1994	4	ND
RUS	1994	0	1
Total		22	27
EDA	1995	NA	NA
EPA	1995	ND	7
FHA	1995	ND	ND
FSA	1995	0	ND
FTA	1995	ND	ND
GSA	1995	3	0
HHS	1995	1	0
HUD	1995	ND	ND
NRCS	1995	9	ND
RUS	1995	0	0
Total		13	7
Grand Total		35	34

Table D14. Data recovery projects by regulatory agency, FY 1994-1995.

Agency	Year	Agency-funded Data Recovery Projects	Other Data Recovery Projects
FERC	1994	NA	12
FRA	1994	ND	ND
MMS	1994	2	0
NRC	1994	0	0
OSM	1994	ND	ND
Total		2	12
FERC	1995	NA	8
FRA	1995	0	0
MMS	1995	0	0
NRC	1995	0	0
OSM	1995	ND	ND
Total		0	8
Grand Total		2	20

Table D15. Unanticipated discovery projects by land management agency, FY 1994-1995.

Agency	Year	Agency-Funded Unanticipated Discoveries	Other Unanticipated Discoveries	Unanticipated Discoveries Requiring Data Recovery
AF	1994	9	1	6
ANG	1994	0	0	0
BIA	1994	35	3	32
BLM	1994	128	ND	ND
BOP	1994	0	0	0
BOR	1994	4	1	4
CG	1994	ND	ND	ND
COE	1994	13	24	10
DOA	1994	6	0	4
DOE	1994	4	0	3
FAA	1994	1	0	0
FS	1994	22	2	5
FWS	1994	1	ND	1
INS	1994	0	0	0
NASA	1994	0	ND	0
NOAA	1994	ND	ND	ND
NPS	1994	3	0	2
SI	1994	0	0	0
TVA	1994	0	0	0
USBM	1994	0	0	0
USGS	1994	0	NA	0
USMC	1994	0	0	0
USN	1994	1	0	0
USPS	1994	ND	ND	ND
VA	1994	ND	ND	ND
Total		227	31	67
AF	1995	0	1	4
ANG	1995	ND	ND	ND
BIA	1995	35	3	32
BLM	1995	39	ND	ND
BOP	1995	0	0	0
BOR	1995	1	1	2
CG	1995	1	ND	1
COE	1995	16	21	17
DOA	1995	27	ND	ND
DOE	1995	4	0	2
FAA	1995	0	0	0
FS	1995	88	3	17
FWS	1995	1	0	2
INS	1995	0	0	0
NASA	1995	1	0	0
NOAA	1995	1	0	1
NPS	1995	2	0	1
SI	1995	NA	NA	NA
TVA	1995	0	0	0
USGS	1995	0	ND	0
USMC	1995	ND	ND	ND
USN	1995	1	0	0
USPS	1995	0	0	0
VA	1995	ND	ND	ND
Total		217	29	79
Grand Total		444	60	146

Table D16. Unanticipated discovery projects by development agency, FY 1994-1995.

Agency	Year	Agency-Funded Unanticipated Discoveries	Other Unanticipated Discoveries	Unanticipated Discoveries Requiring Data Recovery
EDA	1994	ND	ND	ND
EPA	1994	3	ND	3
FHA	1994	ND	ND	ND
FmHA	1994	30	0	11
FTA	1994	NA	NA	NA
GSA	1994	2	0	1
HHS	1994	8	1	6
HUD	1994	ND	ND	ND
NRCS	1994	ND	ND	ND
RUS	1994	0	NA	NA
Total		43	1	21
EDA	1995	ND	ND	ND
EPA	1995	ND	ND	ND
FHA	1995	ND	ND	ND
FSA	1995	0	ND	0
FTA	1995	ND	ND	ND
GSA	1995	4	0	0
HHS	1995	5	0	3
HUD	1995	ND	ND	ND
NRCS	1995	ND	ND	ND
RUS	1995	0	NA	NA
Total		9	0	3
Grand Total		52	1	24

Table D17. Unanticipated discovery projects by regulatory agency, FY 1994-1995.

Agency	Year	Agency-Funded Unanticipated Discoveries	Other Unanticipated Discoveries	Unanticipated Discoveries Requiring Data Recovery
FERC	1994	NA	1	0
FRA	1994	ND	ND	ND
MMS	1994	0	0	0
NRC	1994	NA	NA	NA
OSM	1994	ND	ND	ND
Total		0	1	0
FERC	1995	NA	7	6
FRA	1995	0	0	0
MMS	1995	0	0	0
NRC	1995	NA	NA	NA
OSM	1995	ND	ND	ND
Total		0	7	6
Grand Total		0	8	6

Table D18. Expenditures for archeological studies by land management agency, FY 1994-1995.

Agency	Year	Overview Cost	Identification & Evaluation Costs	Data Recovery Cost	Unanticipated Discovery Cost
AF	1994	1076000	3460000	320000	7250
ANG	1994	150000	0	0	0
BIA	1994	105347	4444300	2262100	35850
BLM	1994	ND	ND	298683	ND
BOP	1994	30000	328000	0	0
BOR	1994	235000	1991900	3203900	27800
CG	1994	ND	ND	ND	ND
COE	1994	2500000	7300000	2500000	220000
DOA	1994	671731	4490464	315566	17000
DOE	1994	468066	976323	126102	355000
FAA	1994	144000	176385	854328	3000
FS	1994	222450	28283683	1102028	69400
FWS	1994	70000	275000	2093000	100000
INS	1994	NA	1000	NA	NA
NASA	1994	36500	56000	0	0
NOAA	1994	20000	20000	ND	ND
NPS	1994	329720	3501020	1013235	15000
SI	1994	20	20	20	0
TVA	1994	68000	160000	0	0
USBM	1994	0	0	0	0
USGS	1994	0	0	0	0
USMC	1994	35000	731450	0	0
USN	1994	750000	852000	85000	ND
USPS	1994	ND	ND	ND	ND
VA	1994	6580	ND	ND	ND
Total		6918414	57047545	14173962	850300
AF	1995	1940474	3562844	139568	3000
ANG	1995	ND	ND	ND	ND
BIA	1995	105347	4444300	2262100	35850
BLM	1995	ND	ND	122368	ND
BOP	1995	74000	639000	0	0
BOR	1995	264,700	632633	3859500	152400
CG	1995	8000	105000	ND	80000
COE	1995	2200000	10400000	3400000	260000
DOA	1995	ND	ND	ND	ND
DOE	1995	557000	2585000	555000	16000
FAA	1995	6600	237000	0	0
FS	1995	741652	10155902	1752647	120800
FWS	1995	70000	150000	777000	25000
INS	1995	NA	0	0	0
NASA	1995	500	ND	0	500
NOAA	1995	5000	5000	5000	0
NPS	1995	320550	3260233	551443	11500
SI	1995	NA	NA	NA	NA
TVA	1995	115000	156000	0	0
USGS	1995	NA	75000	0	0
USMC	1995	ND	ND	ND	ND
USN	1995	ND	ND	ND	ND
USPS	1995	0	0	0	0
VA	1995	ND	37000	ND	ND
Total		6144387	36444912	13424626	705050
Grand Total		13062801	93492457	27598588	1555350

Table D19. Expenditures for archeological studies by development agency, FY 1994-1995.

Agency	Year	Overview Cost	Identification & Evaluation Costs	Data Recovery Cost	Unanticipated Discovery Cost
EDA	1994	NA	66819	NA	ND
EPA	1994	33000	255500	53000	9000
FHA	1994	ND	ND	ND	ND
FmHA	1994	745000	78000	14000	4700
FTA	1994	NA	NA	NA	NA
GSA	1994	176000	211000	783000	135000
HHS	1994	51000	642000	56000	25000
HUD	1994	ND	ND	ND	ND
NRCS	1994	303000	337000	49000	ND
RUS	1994	56100	289051	6192	0
Total		1364100	1879370	961192	173700
EDA	1995	NA	277496	NA	ND
EPA	1995	54000	108000	ND	ND
FHA	1995	ND	ND	ND	ND
FSA	1995	35403	47715	0	0
FTA	1995	ND	ND	ND	ND
GSA	1995	397000	347000	439000	70000
HHS	1995	51212	829212	39000	10000
HUD	1995	ND	ND	ND	ND
NRCS	1995	82523	437618	47699	ND
RUS	1995	52700	211650	0	0
Total		672838	2258691	525699	80000
Grand Total		2036938	4138061	1486891	253700

Table D20. Expenditures for archeological studies by regulatory agency, FY 1994-1995.

Agency	Year	Overview Cost	Identification & Evaluation Costs	Data Recovery Cost	Unanticipated Discovery Cost
FERC	1994	NA	NA	NA	NA
FRA	1994	ND	ND	ND	ND
MMS	1994	3846	75950	4150	0
NRC	1994	0	0	0	NA
OSM	1994	ND	ND	ND	ND
Total		3846	75950	4150	0
FERC	1995	NA	NA	NA	NA
FRA	1995	0	0	0	0
MMS	1995	41538	30358	0	0
NRC	1995	0	0	0	NA
OSM	1995	ND	ND	ND	ND
Total		41538	30358	0	0
Grand Total		45384	106308	4150	0

Table D21. Law enforcement actions and expenditures by land management agency, FY 1994-1995.

Agency	Year	Violations	Arrest	Citations	Enforcement Costs
AF	1994	8	0	0	0
ANG	1994	0	0	0	0
BIA	1994	3	0	0	700
BLM	1994	137	27	29	925973
BOP	1994	0	0	0	0
BOR	1994	2	0	0	200000
CG	1994	ND	ND	ND	ND
COE	1994	19	1	16	135000
DOA	1994	5	1	0	27170
DOE	1994	0	0	0	41000
FAA	1994	ND	ND	ND	ND
FS	1994	246	13	18	2500000
FWS	1994	6	0	1	ND
INS	1994	NA	NA	NA	NA
NASA	1994	0	0	0	0
NOAA	1994	0	NA	NA	NA
NPS	1994	215	11	90	925855
SI	1994	NA	NA	NA	NA
TVA	1994	31	0	4	ND
USBM	1994	0	0	0	0
USGS	1994	NA	NA	NA	NA
USMC	1994	0	0	0	0
USN	1994	0	0	0	0
USPS	1994	NA	NA	NA	NA
VA	1994	ND	ND	ND	ND
Total		672	53	158	4755698
AF	1995	12	0	0	250000
ANG	1995	ND	ND	ND	ND
BIA	1995	3	0	0	700
BLM	1995	196	10	13	788958
BOP	1995	0	0	0	0
BOR	1995	0	0	0	0
CG	1995	0	0	0	0
COE	1995	39	0	10	ND
DOA	1995	20	ND	ND	ND
DOE	1995	2	0	0	71000
FAA	1995	0	0	0	0
FS	1995	284	18	9	1600000
FWS	1995	5	0	0	0
INS	1995	NA	NA	NA	NA
NASA	1995	0	0	0	0
NOAA	1995	0	ND	ND	ND
NPS	1995	98	13	10	214500
SI	1995	NA	NA	NA	NA
TVA	1995	15	0	3	72500
USGS	1995	NA	NA	NA	NA
USMC	1995	ND	ND	ND	ND
USN	1995	0	0	0	NA
USPS	1995	NA	NA	NA	NA
VA	1995	ND	ND	ND	ND
Total		674	41	45	2997658
Grand Total		1346	94	203	7753356

Table D22. Prosecution of archeological violations by land management agency, FY 1994-1995.

Agency	Year	Prosecution	ARPA Misdemeanor Conviction	ARPA Felony Conviction	Non-ARPA Prosecution	Civil Penalty
AF	1994	0	0	0	0	0
ANG	1994	0	0	0	0	0
BIA	1994	0	0	0	0	0
BLM	1994	16	3	2	4	4
BOP	1994	0	0	0	0	0
BOR	1994	0	0	0	0	0
CG	1994	ND	ND	ND	ND	ND
COE	1994	2	7	1	1	3
DOA	1994	1	0	0	0	1
DOE	1994	0	0	0	0	0
FAA	1994	ND	ND	ND	ND	ND
FS	1994	18	1	4	13	2
FWS	1994	0	ND	ND	ND	1
INS	1994	NA	NA	NA	NA	NA
NASA	1994	0	0	0	0	0
NOAA	1994	NA	NA	NA	NA	NA
NPS	1994	28	17	10	13	54
SI	1994	NA	NA	NA	NA	NA
TVA	1994	0	0	0	0	0
USBM	1994	0	0	0	0	0
USGS	1994	NA	NA	NA	NA	NA
USMC	1994	0	0	0	0	0
USN	1994	0	0	0	0	0
USPS	1994	NA	NA	NA	NA	NA
VA	1994	ND	ND	ND	ND	ND
Total		65	28	17	31	65
AF	1995	0	0	0	0	0
ANG	1995	ND	ND	ND	ND	ND
BIA	1995	0	0	0	0	0
BLM	1995	10	4	5	17	1
BOP	1995	0	0	0	0	0
BOR	1995	0	0	0	0	0
CG	1995	0	0	0	0	0
COE	1995	2	0	0	6	6
DOA	1995	ND	ND	ND	ND	ND
DOE	1995	0	0	0	0	0
FAA	1995	0	0	0	0	0
FS	1995	19	9	18	7	151
FWS	1995	0	0	0	0	0
INS	1995	NA	NA	NA	NA	NA
NASA	1995	0	0	0	0	0
NOAA	1995	ND	ND	ND	ND	ND
NPS	1995	17	4	0	3	1
SI	1995	NA	NA	NA	NA	NA
TVA	1995	0	1	0	0	0
USGS	1995	NA	NA	NA	NA	NA
USMC	1995	ND	ND	ND	ND	ND
USN	1995	0	0	0	0	0
USPS	1995	NA	NA	NA	NA	NA
VA	1995	ND	ND	ND	ND	ND
Total		48	18	23	33	159
Grand Total		113	46	40	64	224

Table D23. ARPA financial information by land management agency, FY 1994-1995.

Agency	Year	ARPA Criminal Fines	ARPA Civil Penalties	Restore & Repair Costs	Artifact Commercial Value	Property Commercial Value
AF	1994	0	0	0	0	0
ANG	1994	0	0	0	0	0
BIA	1994	0	0	0	0	0
BLM	1994	3625	11451	32811	131110	41700
BOP	1994	0	0	0	0	0
BOR	1994	0	0	0	0	0
CG	1994	ND	ND	ND	ND	ND
COE	1994	0	0	10000	40000	0
DOA	1994	0	0	0	0	0
DOE	1994	0	0	0	0	0
FAA	1994	ND	ND	ND	ND	ND
FS	1994	10700	28783	531502	0	10000
FWS	1994	0	ND	ND	ND	ND
INS	1994	NA	NA	NA	NA	NA
NASA	1994	0	0	0	0	0
NOAA	1994	0	NA	NA	NA	NA
NPS	1994	6025	42058	8636	2512642	30650
SI	1994	NA	NA	NA	NA	NA
TVA	1994	0	400	2645	0	ND
USBM	1994	0	0	0	0	0
USGS	1994	NA	NA	NA	NA	NA
USMC	1994	0	0	0	0	0
USN	1994	0	0	0	0	0
USPS	1994	NA	NA	NA	NA	NA
VA	1994	ND	ND	ND	ND	ND
Total		20350	82692	585594	2683752	82350
AF	1995	0	0	250000	0	0
ANG	1995	ND	ND	ND	ND	ND
BIA	1995	0	0	0	0	0
BLM	1995	15765	0	34623	59297	1000
BOP	1995	0	0	0	0	0
BOR	1995	0	0	0	0	0
CG	1995	0	0	0	ND	0
COE	1995	ND	1000	20000	0	0
DOA	1995	ND	ND	ND	ND	ND
DOE	1995	0	0	0	0	0
FAA	1995	0	0	0	0	0
FS	1995	7800	129286	1096627	4683	0
FWS	1995	0	0	2000	0	0
INS	1995	NA	NA	NA	NA	NA
NASA	1995	0	0	0	0	0
NOAA	1995	ND	ND	ND	ND	ND
NPS	1995	1425	1610	63660	250	0
SI	1995	NA	NA	NA	NA	NA
TVA	1995	25	0	0	0	0
USGS	1995	NA	NA	NA	NA	NA
USMC	1995	ND	ND	ND	ND	ND
USN	1995	0	0	0	0	NA
USPS	1995	NA	NA	NA	NA	NA
VA	1995	ND	ND	ND	ND	ND
Total		25015	131896	1466910	64230	1000
Grand Total		45365	214588	2052504	2747982	83350

APPENDIX E

Federal Archeology Program Authorizations, Regulations, Guidelines

STATUTE	*REGULATION AND GUIDELINE*
ABANDONED SHIPWRECK ACT (43 U.S.C. 2101 *et seq.*)	Abandoned Shipwreck Act Final Guidelines 55 FR 50116 (1990) 55 FR 51528 (1990) 56 FR 7875 (1991)
AMERICAN INDIAN RELIGIOUS FREEDOM ACT (42 U.S.C. 1996)	
ANTIQUITIES ACT (16 U.S.C. 431-433)	43 CFR 3: Uniform Rules and Regulations Prescribed by the Secretaries of the Interior, Agriculture, and War to Carry Out the Provisions of the "Act for the Preservation of American Antiquities"
ARCHAEOLOGICAL RESOURCES PROTECTION ACT (16 U.S.C. 470aa-470mm)	ARPA Uniform Regulations: 18 CFR 1312 (Tennessee Valley Authority), 32 CFR 229 (Defense), 36 CFR 296 (Agriculture), and 43 CFR 7 (Interior). DOI Supplemental Regulations 43 CFR 7(7) BIA Supplemental Regulations: 25 CFR 262 36 CFR 79: Curation of Federally-Owned and Administered Archeological Collections
ARCHEOLOGICAL AND HISTORIC PRESERVATION ACT (16 U.S.C. 469-469c)	
HISTORIC SITES ACT (16 U.S.C. 461-467)	
NATIONAL HISTORIC PRESERVATION ACT (16 U.S.C. 470)	36 CFR 60: National Register of Historic Places 36 CFR 800: Protection of Historic Properties Secretary of the Interior Standards and Guidelines for Archeology and Historic Preservation, 48 FR 44716 Guidelines for Federal Agency Responsibilities under Section 110 of the National Historic Preservation Act, 53 FR 4727
NATIVE AMERICAN GRAVES PROTECTION AND REPATRIATION ACT (25 U.S.C. 3001 *et seq.*)	43 CFR Part 10
RESERVOIR SALVAGE ACT (16 U.S.C. 469)	

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